

Student name: _____

MULTIPLE CHOICE - Choose the one alternative that best completes the statement or answers the question.

1) Which of the following statements are true?

1. A cost driver is a factor, such as machine-hours, beds occupied, computer time, or flight-hours, that causes direct costs.

2. Job-order costing systems often use allocation bases that do not reflect how jobs actually use overhead resources.

3. An employee time ticket is an hour-by-hour summary of the employee's activities throughout the day.

- A) Only statement I is true.
- B) Statements I and II are true.
- C) Statements II and III are true.
- D) All of the statements are true.

2) Which of the following statements are true?

1. The formula for computing the predetermined overhead rate is: $\text{Predetermined overhead rate} = \frac{\text{Estimated total amount of the allocation base}}{\text{Estimated total manufacturing overhead cost}}$

2. Generally speaking, when going through the process of computing a predetermined overhead rate, the estimated total manufacturing overhead cost is determined before estimating the amount of the allocation base.

- A) Only statement I is true.
- B) Only statement II is true.
- C) Both of the statements are true.
- D) Neither of the statements are true.

3) Which of the following statements are true?

1. If a job is not completed at year end, then no manufacturing overhead cost would be applied to that job when a predetermined overhead rate is used.

2. Actual overhead costs are not assigned to jobs in a job costing system.

3. The amount of overhead applied to a particular job equals the actual amount of overhead caused by the job.

- A) Only statement I is true.
- B) Only statement II is true.
- C) Statements II and III are true.
- D) All of the statements are true.

4) Which of the following statements are true?

1. Job cost sheets contain entries for actual direct material, actual direct labor, and actual manufacturing overhead cost incurred in completing a job.

2. A job cost sheet is used to record how much a customer pays for the job once the job is completed.

- A) Only statement I is true.
- B) Only statement II is true.
- C) Both of the statements are true.
- D) Neither of the statements are true.

5) Which of the following statements are true?

1. In a job-order costing system, indirect labor is assigned to a job using information from the employee time ticket.

2. If the allocation base in the predetermined overhead rate does not drive overhead costs, it will nevertheless provide reasonably accurate unit product costs because of the averaging process.

3. In a job-order costing system, costs are traced to individual units of product. The sum total of such traced costs is called the unit product cost.

- A) Only statement I is true.
- B) Statements I and II are true.
- C) Statements II and III are true.
- D) None of the statements are true.

6) Which of the following statements are true?

1. The fact that one department may be labor intensive while another department is machine intensive explains in part why multiple predetermined overhead rates are often used in larger companies.

2. A company will improve job cost accuracy by using multiple overhead rates even if it cannot identify more than one overhead cost driver.

3. The appeal of using multiple departmental overhead rates is that they presumably provide a more accurate accounting of the costs caused by jobs.

Brewer 9e Rechecks 2021-11-02

- A) Only statement I is true.
- B) Statements I and III are true.
- C) Statements II and III are true.
- D) None of the statements are true.

7) Which of the following statements are true?

1. The costs attached to products that have not been sold are included in ending inventory on the balance sheet.

2. In absorption costing, nonmanufacturing costs are assigned to units of product.

3. Most countries require some form of absorption costing for external reports.

- A) Only statement I is true.
- B) Only statement II is true.
- C) Statements I and III are true.
- D) All of the statements are true.

8) Which of the following statements are true?

1. A bill of materials is a document that lists the type and quantity of each type of direct material needed to complete a unit of product.

2. An employee time ticket is used to record points that are earned by employees based on the hours they worked that can be used to pay for coffee, food in the cafeteria, and even in some cases for vacation travel.

- A) Only statement I is true.
- B) Only statement II is true.
- C) Both of the statements are true.
- D) Neither of the statements are true.

9) In a job-order costing system that is based on machine-hours, which of the following formulas is correct?

- A) Predetermined overhead rate = Actual manufacturing overhead ÷ Actual machine-hours
- B) Predetermined overhead rate = Actual manufacturing overhead ÷ Estimated machine-hours
- C) Predetermined overhead rate = Estimated manufacturing overhead ÷ Estimated machine-hours
- D) Predetermined overhead rate = Estimated manufacturing overhead ÷ Actual machine-hours

10) Which of the following is the correct formula to compute the predetermined overhead rate?

- A) Predetermined overhead rate = Estimated total units in the allocation base ÷ Estimated total manufacturing overhead costs
- B) Predetermined overhead rate = Estimated total manufacturing overhead costs ÷ Estimated total units in the allocation base
- C) Predetermined overhead rate = Actual total manufacturing overhead costs ÷ Estimated total units in the allocation base
- D) Predetermined overhead rate = Estimated total manufacturing overhead costs ÷ Actual total units in the allocation base.

11) Assigning manufacturing overhead to a specific job is complicated by all of the below except:

- A) Manufacturing overhead is an indirect cost that is either impossible or difficult to trace to a particular job.
- B) Manufacturing overhead is incurred only to support some jobs.
- C) Manufacturing overhead consists of both variable and fixed costs.
- D) The average cost of actual fixed manufacturing overhead expenses will vary depending on how many units are produced in a period.

12) Which of the following statements about using a plantwide overhead rate based on direct labor is correct?

- A) Using a plantwide overhead rate based on direct labor-hours will ensure that direct labor costs are correctly traced to jobs.
- B) Using a plantwide overhead rate based on direct labor costs will ensure that direct labor costs will be correctly traced to jobs.
- C) It is often overly simplistic and incorrect to assume that direct labor-hours is a company's only manufacturing overhead cost driver.
- D) The labor theory of value ensures that using a plantwide overhead rate based on direct labor will do a reasonably good job of assigning overhead costs to jobs.

13) Which of the following would usually be found on a job cost sheet under a normal cost system?

	Actual direct material cost	Actual manufacturing overhead cost
A)	Yes	Yes
B)	Yes	No
C)	No	Yes
D)	No	No

- A) Choice A
- B) Choice B
- C) Choice C
- D) Choice D

14) Which of the following statements is not correct concerning multiple overhead rate systems?

- A) A multiple overhead rate system is more complex than a system based on a single plantwide overhead rate.
- B) A multiple overhead rate system is usually more accurate than a system based on a single plantwide overhead rate.
- C) A company may choose to create a separate overhead rate for each of its production departments.
- D) In departments that are relatively labor-intensive, their overhead costs should be applied to jobs based on machine-hours rather than on direct labor-hours.

15) Johansen Corporation uses a predetermined overhead rate based on direct labor-hours to apply manufacturing overhead to jobs. The Corporation has provided the following estimated costs for the next year:

Direct materials	\$ 6,000
Direct labor	\$ 20,000
Rent on factory building	\$ 15,000
Sales salaries	\$ 25,000
Depreciation on factory equipment	\$ 8,000
Indirect labor	\$ 12,000
Production supervisor's salary	\$ 15,000

Jameson estimates that 20,000 direct labor-hours will be worked during the year. The predetermined overhead rate per hour will be:

- A) \$2.50 per direct labor-hour
- B) \$2.79 per direct labor-hour
- C) \$3.00 per direct labor-hour
- D) \$4.00 per direct labor-hour

16) The Silver Corporation uses a predetermined overhead rate to apply manufacturing overhead to jobs. The predetermined overhead rate is based on labor cost in Department A and on machine-hours in Department B. At the beginning of the year, the Corporation made the following estimates:

	Department A	Department B
Direct labor cost	\$ 60,000	\$ 40,000
Manufacturing overhead	\$ 90,000	\$ 45,000
Direct labor-hours	6,000	9,000
Machine-hours	2,000	15,000

What predetermined overhead rates would be used in Department A and Department B, respectively?

- A) 67% and \$3.00
- B) 150% and \$5.00
- C) 150% and \$3.00
- D) 67% and \$5.00

17) Purves Corporation is using a predetermined overhead rate that was based on estimated total fixed manufacturing overhead of \$121,000 and 10,000 direct labor-hours for the period. The company incurred actual total fixed manufacturing overhead of \$113,000 and 10,900 total direct labor-hours during the period. The predetermined overhead rate is closest to:

- A) \$10.37
- B) \$12.10
- C) \$11.10
- D) \$11.30

18) Reamer Corporation uses a predetermined overhead rate based on machine-hours to apply manufacturing overhead to jobs. The Corporation has provided the following estimated costs for next year:

Direct materials	\$ 1,000
Direct labor	\$ 3,000
Sales commissions	\$ 4,000
Salary of production supervisor	\$ 2,000
Indirect materials	\$ 400
Advertising expense	\$ 800
Rent on factory equipment	\$ 1,000

Reamer estimates that 500 direct labor-hours and 1,000 machine-hours will be worked during the year. The predetermined overhead rate per hour will be:

- A) \$6.80 per machine-hour
- B) \$6.00 per machine-hour
- C) \$3.00 per machine-hour
- D) \$3.40 per machine-hour

19) Baj Corporation uses a predetermined overhead rate base on machine-hours that it recalculates at the beginning of each year. The company considers all of its manufacturing overhead costs to be fixed and it has provided the following data for the most recent year.

Estimated total fixed manufacturing overhead from the beginning of the year	\$ 534,000
Estimated activity level from the beginning of the year	30,000 machine-hours
Actual total fixed manufacturing overhead	\$ 487,000

Actual activity level

27,400 machine-hours

The predetermined overhead rate per machine-hour would be closest to:

- A) \$17.80
- B) \$19.49
- C) \$16.23
- D) \$17.77

20) Giannitti Corporation bases its predetermined overhead rate on the estimated machine-hours for the upcoming year. Data for the upcoming year appear below:

Estimated machine-hours	72,400
Estimated variable manufacturing overhead	\$ 3.40 per machine-hour
Estimated total fixed manufacturing overhead	\$ 838,720

The predetermined overhead rate for the recently completed year was closest to:

- A) \$6.67 per machine-hour
- B) \$10.20 per machine-hour
- C) \$14.98 per machine-hour
- D) \$8.63 per machine-hour

21) Giannitti Corporation bases its predetermined overhead rate on the estimated machine-hours for the upcoming year. Data for the upcoming year appear below:

Estimated machine-hours	36,000
Estimated variable manufacturing overhead	\$ 3.01 per machine-hour
Estimated total fixed manufacturing overhead	\$ 1,058,040

The predetermined overhead rate for the recently completed year was closest to:

- A) \$29.39 per machine-hour
- B) \$32.40 per machine-hour
- C) \$32.81 per machine-hour
- D) \$3.01 per machine-hour

22) Gilchrist Corporation bases its predetermined overhead rate on the estimated machine-hours for the upcoming year. At the beginning of the most recently completed year, the Corporation estimated the machine-hours for the upcoming year at 40,500 machine-hours. The estimated variable manufacturing overhead was \$4.10 per machine-hour and the estimated total fixed manufacturing overhead was \$1,194,345. The predetermined overhead rate for the recently completed year was closest to:

- A) \$33.59 per machine-hour
- B) \$32.59 per machine-hour
- C) \$4.10 per machine-hour
- D) \$29.49 per machine-hour

23) Gilchrist Corporation bases its predetermined overhead rate on the estimated machine-hours for the upcoming year. At the beginning of the most recently completed year, the Corporation estimated the machine-hours for the upcoming year at 79,000 machine-hours. The estimated variable manufacturing overhead was \$7.38 per machine-hour and the estimated total fixed manufacturing overhead was \$2,347,090. The predetermined overhead rate for the recently completed year was closest to:

- A) \$37.09 per machine-hour
- B) \$36.07 per machine-hour
- C) \$7.38 per machine-hour
- D) \$29.71 per machine-hour

24) Dearden Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$144,000, variable manufacturing overhead of \$2.00 per machine-hour, and 60,000 machine-hours. The predetermined overhead rate is closest to:

- A) \$2.40 per machine-hour
- B) \$6.40 per machine-hour
- C) \$4.40 per machine-hour
- D) \$2.00 per machine-hour

25) Longobardi Corporation bases its predetermined overhead rate on the estimated labor-hours for the upcoming year. At the beginning of the most recently completed year, the Corporation estimated the labor-hours for the upcoming year at 45,500 labor-hours. The estimated variable manufacturing overhead was \$5.49 per labor-hour and the estimated total fixed manufacturing overhead was \$1,037,855. The actual labor-hours for the year turned out to be 41,600 labor-hours. The predetermined overhead rate for the recently completed year was closest to:

- A) \$28.30 per labor-hour
- B) \$22.81 per labor-hour
- C) \$5.49 per labor-hour
- D) \$30.95 per labor-hour

26) Longobardi Corporation bases its predetermined overhead rate on the estimated labor-hours for the upcoming year. At the beginning of the most recently completed year, the Corporation estimated the labor-hours for the upcoming year at 46,000 labor-hours. The estimated variable manufacturing overhead was \$6.25 per labor-hour and the estimated total fixed manufacturing overhead was \$1,026,260. The actual labor-hours for the year turned out to be 41,200 labor-hours. The predetermined overhead rate for the recently completed year was closest to:

- A) \$28.56 per labor-hour
- B) \$22.31 per labor-hour
- C) \$6.25 per labor-hour
- D) \$31.16 per labor-hour

27) Valvano Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$440,000, variable manufacturing overhead of \$2.20 per machine-hour, and 50,000 machine-hours. The estimated total manufacturing overhead is closest to:

- A) \$440,000
- B) \$110,000
- C) \$440,002
- D) \$550,000

28) Brothern Corporation bases its predetermined overhead rate on the estimated machine-hours for the upcoming year. Data for the most recently completed year appear below:

Estimates made at the beginning of the year:

Estimated machine-hours	37,300
Estimated variable manufacturing overhead	\$ 5.39 per machine-hour
Estimated total fixed manufacturing overhead	\$ 775,840
Actual machine-hours for the year	35,200

The predetermined overhead rate for the recently completed year was closest to:

- A) \$25.89 per machine-hour
- B) \$26.19 per machine-hour
- C) \$5.39 per machine-hour
- D) \$20.80 per machine-hour

29) Brothern Corporation bases its predetermined overhead rate on the estimated machine-hours for the upcoming year. Data for the most recently completed year appear below:

Estimates made at the beginning of the year:

Estimated machine-hours	39,000
Estimated variable manufacturing overhead	\$ 6.76 per machine-hour

Estimated total fixed manufacturing overhead	\$ 794,430
Actual machine-hours for the year	42,700

The predetermined overhead rate for the recently completed year was closest to:

- A) \$25.37 per machine-hour
- B) \$27.13 per machine-hour
- C) \$6.76 per machine-hour
- D) \$20.37 per machine-hour

30) Steele Corporation uses a predetermined overhead rate based on machine-hours to apply manufacturing overhead to jobs. Steele Corporation has provided the following estimated costs for next year:

Direct materials	\$ 20,000
Direct labor	\$ 60,000
Sales commissions	\$ 80,000
Salary of production supervisor	\$ 40,000
Indirect materials	\$ 8,000
Advertising expense	\$ 16,000
Rent on factory equipment	\$ 20,000

Steele estimates that 10,000 direct labor-hours and 16,000 machine-hours will be worked during the year. The predetermined overhead rate per hour will be:

- A) \$4.25
- B) \$8.00
- C) \$9.00
- D) \$10.25

31) Helland Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

Total direct labor-hours	30,000
Total fixed manufacturing overhead cost	\$ 189,000
Variable manufacturing overhead per direct labor-hour	\$ 2.50

The predetermined overhead rate is closest to:

- A) \$2.50 per direct labor-hour
- B) \$11.30 per direct labor-hour
- C) \$6.30 per direct labor-hour
- D) \$8.80 per direct labor-hour

32) Laflame Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	70,000
Total fixed manufacturing overhead cost	\$ 357,000
Variable manufacturing overhead per machine-hour	\$ 3.90

The estimated total manufacturing overhead is closest to:

- A) \$273,000
- B) \$630,000
- C) \$357,004
- D) \$357,000

33) Almaraz Corporation has two manufacturing departments--Forming and Finishing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Forming	Finishing	Total
Estimated total machine-hours (MHs)	7,000	3,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 40,600	\$ 8,100	\$ 48,700
Estimated variable manufacturing overhead cost per MH	\$ 1.30	\$ 2.80	

Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours. That predetermined manufacturing overhead rate is closest to:

- A) \$6.62
- B) \$4.87
- C) \$4.10
- D) \$7.10

34) Bernson Corporation is using a predetermined overhead rate that was based on estimated total fixed manufacturing overhead of \$492,000 and 30,000 machine-hours for the period. The company incurred actual total fixed manufacturing overhead of \$517,000 and 28,300 total machine-hours during the period. The amount of manufacturing overhead that would have been applied to all jobs during the period is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$464,120
- B) \$492,000
- C) \$487,703
- D) \$25,000

35) Beat Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	40,000
Total fixed manufacturing overhead cost	\$ 344,000
Variable manufacturing overhead per machine-hour	\$ 3.90

Recently, Job M759 was completed. It required 60 machine-hours. The amount of overhead applied to Job M759 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$750
- B) \$516
- C) \$984
- D) \$234

36) Mundorf Corporation has two manufacturing departments--Forming and Assembly. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Forming	Assembly	Total
Estimated total machine-hours (MHs)	9,000	1,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 52,200	\$ 2,400	\$ 54,600
Estimated variable manufacturing overhead cost per MH	\$ 2.00	\$ 2.10	

During the most recent month, the company started and completed two jobs--Job B and Job H. There were no beginning inventories. Data concerning those two jobs follow:

	Job B	Job H
Forming machine-hours	6,100	2,900
Assembly machine-hours	400	600

Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours. The amount of manufacturing overhead applied to Job B is closest to:

- A) \$48,555
- B) \$35,490
- C) \$2,988
- D) \$45,567

37) Parido Corporation has two manufacturing departments--Casting and Assembly. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Casting	Assembly	Total
Estimated total machine-hours (MHs)	8,000	2,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 44,000	\$ 4,200	\$ 48,200
Estimated variable manufacturing overhead cost per MH	\$ 1.90	\$ 3.00	

During the most recent month, the company started and completed two jobs--Job A and Job H. There were no beginning inventories. Data concerning those two jobs follow:

	Job A	Job H
Casting machine-hours	5,400	2,600
Assembly machine-hours	800	1,200

Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours. The amount of manufacturing overhead applied to Job H is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$8,328
- B) \$26,372
- C) \$18,316
- D) \$18,044

38) Juanita Corporation uses a job-order costing system and applies overhead on the basis of direct labor cost. At the end of October, Juanita had one job still in process. The job cost sheet for this job contained the following information:

Direct materials	\$ 480
Direct labor	\$ 150
Manufacturing overhead applied	\$ 600

An additional \$100 of labor was needed in November to complete this job. For this job, how much should Juanita have transferred to finished goods inventory in November when it was completed?

- A) \$1,330
- B) \$500
- C) \$1,230
- D) \$1,730

39) Carradine Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$105,000, variable manufacturing overhead of \$3.00 per machine-hour, and 70,000 machine-hours. The company recently completed Job P233 which required 60 machine-hours. The amount of overhead applied to Job P233 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$90
- B) \$270
- C) \$450
- D) \$180

40) Fusaro Corporation uses a predetermined overhead rate base on machine-hours that it recalculates at the beginning of each year. The company has provided the following data for the most recent year.

Estimated total fixed manufacturing overhead from the beginning of the year	\$ 684,000
Estimated activity level from the beginning of the year	40,000 machine-hours
Actual total fixed manufacturing overhead	\$ 616,000

Actual activity level

37,700 machine-hours

The amount of manufacturing overhead that would have been applied to all jobs during the period is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$644,670
- B) \$684,000
- C) \$68,000
- D) \$580,580

41) Koelsch Corporation has two manufacturing departments--Molding and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Molding	Customizing	Total
Estimated total machine-hours (MHs)	1,000	9,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 4,000	\$ 25,200	\$ 29,200
Estimated variable manufacturing overhead cost per MH	\$ 2.00	\$ 3.00	

During the most recent month, the company started and completed two jobs--Job F and Job K. There were no beginning inventories. Data concerning those two jobs follow:

	Job F	Job K
Direct materials	\$ 12,300	\$ 8,400
Direct labor cost	\$ 18,200	\$ 6,800
Molding machine-hours	700	300
Customizing machine-hours	3,600	5,400

Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours and uses a markup of 50% on manufacturing cost to establish selling prices. The calculated selling price for Job K is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$72,561
- B) \$79,817
- C) \$24,187
- D) \$48,374

42) Thach Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$665,000, variable manufacturing overhead of \$3.00 per machine-hour, and 70,000 machine-hours. Recently, Job T321 was completed with the following characteristics:

Number of units in the job	30
Total machine-hours	90
Direct materials	\$ 630
Direct labor cost	\$ 2,880

The unit product cost for Job T321 is closest to:

- A) \$117.00
- B) \$58.50
- C) \$154.50
- D) \$51.50

43) Tancredi Corporation has two manufacturing departments--Machining and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Machining	Customizing	Total
Estimated total machine-hours (MHs)	5,000	5,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 22,000	\$ 11,500	\$ 33,500
Estimated variable manufacturing overhead cost per MH	\$ 1.80	\$ 3.00	

During the most recent month, the company started and completed two jobs--Job E and Job J. There were no beginning inventories. Data concerning those two jobs follow:

	Job E	Job J
Direct materials	\$ 12,800	\$ 7,000
Direct labor cost	\$ 17,600	\$ 7,700
Machining machine-hours	3,400	1,600
Customizing machine-hours	2,000	3,000

Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours. If both jobs are sold during the month, the company's cost of goods sold for the month would be closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$102,600
- B) \$61,450
- C) \$41,150
- D) \$110,808

44) Session Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

Total direct labor-hours	70,000
Total fixed manufacturing overhead cost	\$ 511,000
Variable manufacturing overhead per direct labor-hour	\$ 2.10

Recently, Job K913 was completed with the following characteristics:

Total direct labor-hours	150
Direct materials	\$ 705
Direct labor cost	\$ 4,650

The total job cost for Job K913 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$6,060
- B) \$2,115
- C) \$6,765
- D) \$5,355

45) Pebbles Corporation has two manufacturing departments--Casting and Finishing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Casting	Finishing	Total
Estimated total machine-hours (MHs)	2,000	3,000	5,000
Estimated total fixed manufacturing overhead cost	\$ 9,800	\$ 6,300	\$ 16,100
Estimated variable manufacturing overhead cost per MH	\$ 2.00	\$ 2.40	

During the most recent month, the company started and completed two jobs--Job A and Job L. There were no beginning inventories. Data concerning those two jobs follow:

Job A	Job L
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Direct materials	\$ 15,400	\$ 9,600
Direct labor cost	\$ 24,900	\$ 6,200
Casting machine-hours	1,400	600
Finishing machine-hours	1,200	1,800

Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours. The total manufacturing cost assigned to Job L is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$9,600
- B) \$6,200
- C) \$28,904
- D) \$13,104

46) Stockmaster Corporation has two manufacturing departments--Forming and Assembly. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Forming	Assembly	Total
Estimated total machine-hours (MHs)	5,000	5,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 27,000	\$ 10,500	\$ 37,500
Estimated variable manufacturing overhead cost per MH	\$ 1.10	\$ 2.80	

During the most recent month, the company started and completed two jobs--Job C and Job H. There were no beginning inventories. Data concerning those two jobs follow:

	Job C	Job H
Direct materials	\$ 11,200	\$ 7,500
Direct labor cost	\$ 21,000	\$ 7,800
Forming machine-hours	3,400	1,600
Assembly machine-hours	2,000	3,000

Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours and uses a markup of 40% on manufacturing cost to establish selling prices. The calculated selling price for Job C is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$96,989
- B) \$88,172
- C) \$25,192
- D) \$62,980

47) Atteberry Corporation has two manufacturing departments--Machining and Finishing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Machining	Finishing	Total
Estimated total machine-hours (MHs)	6,000	4,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 30,000	\$ 11,200	\$ 41,200
Estimated variable manufacturing overhead cost per MH	\$ 2.00	\$ 2.40	

During the most recent month, the company started and completed two jobs--Job E and Job L. There were no beginning inventories. Data concerning those two jobs follow:

	Job E	Job L
Direct materials	\$ 13,400	\$ 9,100
Direct labor cost	\$ 24,500	\$ 7,000
Machining machine-hours	4,100	1,900
Finishing machine-hours	1,600	2,400

Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours. The total manufacturing cost assigned to Job E is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$24,500
- B) \$35,796
- C) \$13,400
- D) \$73,696

48) Coates Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$249,000, variable manufacturing overhead of \$3.80 per machine-hour, and 30,000 machine-hours. The company has provided the following data concerning Job X784 which was recently completed:

Number of units in the job	50
Total machine-hours	250
Direct materials	\$ 470
Direct labor cost	\$ 5,500

If the company marks up its unit product costs by 30% then the selling price for a unit in Job X784 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$253.87
- B) \$233.87
- C) \$53.97
- D) \$155.22

49) Sutter Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	10,000
Total fixed manufacturing overhead cost	\$ 35,000
Variable manufacturing overhead per machine-hour	\$ 2.20

Recently, Job T369 was completed with the following characteristics:

Number of units in the job	10
Total machine-hours	40
Direct materials	\$ 750
Direct labor cost	\$ 1,560

If the company marks up its unit product costs by 20% then the selling price for a unit in Job T369 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$324.56
- B) \$304.56
- C) \$277.20
- D) \$50.76

50) Doakes Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

Total direct labor-hours	60,000
Total fixed manufacturing overhead cost	\$ 378,000
Variable manufacturing overhead per direct labor-hour	\$ 2.20

Recently, Job M843 was completed with the following characteristics:

Number of units in the job	60
Total direct labor-hours	120
Direct materials	\$ 630
Direct labor cost	\$ 2,400

The unit product cost for Job M843 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$33.75
- B) \$67.50
- C) \$27.50
- D) \$50.50

51) Placker Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$155,000, variable manufacturing overhead of \$3.40 per machine-hour, and 50,000 machine-hours.

Recently, Job A881 was completed with the following characteristics:

Total machine-hours	100
Direct materials	\$ 645
Direct labor cost	\$ 2,300

The total job cost for Job A881 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$3,595
- B) \$2,945
- C) \$2,950
- D) \$1,295

52) Tomey Corporation has two production departments, Forming and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department's predetermined overhead rate is based on machine-hours and the Finishing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Forming	Finishing
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Machine-hours	18,000	14,000
Direct labor-hours	2,000	8,000
Total fixed manufacturing overhead cost	\$ 99,000	\$ 70,400
Variable manufacturing overhead per machine-hour	\$ 2.10	
Variable manufacturing overhead per direct labor-hour		\$ 3.70

During the current month the company started and finished Job T617. The following data were recorded for this job:

Job T617:	Forming	Finishing
Machine-hours	90	20
Direct labor-hours	30	60
Direct materials	\$ 940	\$ 350
Direct labor cost	\$ 960	\$ 1,920

The total job cost for Job T617 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$5,604
- B) \$2,584
- C) \$684
- D) \$3,020

53) Molash Corporation has two manufacturing departments--Machining and Assembly. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Machining	Assembly	Total
Estimated total machine-hours (MHs)	2,000	3,000	5,000
Estimated total fixed manufacturing overhead cost	\$ 9,400	\$ 8,100	\$ 17,500
Estimated variable manufacturing overhead cost per MH	\$ 1.80	\$ 2.40	

During the most recent month, the company started and completed two jobs--Job B and Job L. There were no beginning inventories. Data concerning those two jobs follow:

	Job B	Job L
Direct materials	\$ 14,400	\$ 7,100
Direct labor cost	\$ 23,500	\$ 6,700
Machining machine-hours	1,400	600
Assembly machine-hours	1,200	1,800

Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both production departments. Further assume that the company uses a markup of 50% on manufacturing cost to establish selling prices. The calculated selling price for Job L is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$40,320
- B) \$41,933
- C) \$13,440
- D) \$26,880

54) Columbo Corporation has two production departments, Forming and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department's predetermined overhead rate is based on machine-hours and the Finishing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Forming	Finishing
Machine-hours	17,000	10,000
Direct labor-hours	1,000	9,000
Total fixed manufacturing overhead cost	\$ 110,500	\$ 78,300
Variable manufacturing overhead per machine-hour	\$ 1.60	
Variable manufacturing overhead per direct labor-hour		\$ 3.30

During the current month the company started and finished Job A948. The following data were recorded for this job:

Job A948:	Forming	Finishing
Machine-hours	70	30
Direct labor-hours	10	50
Direct materials	\$ 650	\$ 330
Direct labor cost	\$ 380	\$ 1,900

If the company marks up its manufacturing costs by 40% then the selling price for Job A948 would be closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$6,197.80
- B) \$1,770.80
- C) \$4,427.00
- D) \$6,818.00

55) Lotz Corporation has two manufacturing departments--Casting and Finishing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Casting	Finishing	Total
Estimated total machine-hours (MHs)	2,000	8,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 10,200	\$ 19,200	\$ 29,400
Estimated variable manufacturing overhead cost per MH	\$ 1.20	\$ 2.20	

During the most recent month, the company started and completed two jobs--Job F and Job K. There were no beginning inventories. Data concerning those two jobs follow:

	Job F	Job K
Direct materials	\$ 14,400	\$ 7,100
Direct labor cost	\$ 22,500	\$ 6,600
Casting machine-hours	1,400	600
Finishing machine-hours	3,200	4,800

Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both production departments. Further assume that the company uses a markup of 50% on manufacturing cost to establish selling prices. The calculated selling price for Job F is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$30,220
- B) \$90,660
- C) \$60,440
- D) \$96,100

56) Ashe Corporation has two manufacturing departments--Machining and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Machining	Customizing	Total
Estimated total machine-hours (MHs)	1,000	4,000	5,000
Estimated total fixed manufacturing overhead cost	\$ 4,700	\$ 9,200	\$ 13,900
Estimated variable manufacturing overhead cost per MH	\$ 1.10	\$ 2.60	

During the most recent month, the company started and completed two jobs--Job B and Job K. There were no beginning inventories. Data concerning those two jobs follow:

	Job B	Job K
Machining machine-hours	700	300
Customizing machine-hours	1,600	2,400

Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both production departments. The manufacturing overhead applied to Job K is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$11,760
- B) \$1,740
- C) \$13,716
- D) \$13,500

57) Boward Corporation has two production departments, Milling and Assembly. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Milling Department's predetermined overhead rate is based on machine-hours and the Assembly Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Milling	Assembly
Machine-hours	18,000	12,000
Direct labor-hours	2,000	7,000
Total fixed manufacturing overhead cost	\$ 120,600	\$ 76,300
Variable manufacturing overhead per machine-hour	\$ 2.00	
Variable manufacturing overhead per direct labor-hour		\$ 4.30

During the current month the company started and finished Job T818. The following data were recorded for this job:

Job T818:	Milling	Assembly
Machine-hours	50	30
Direct labor-hours	10	40

The total amount of overhead applied in both departments to Job T818 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$1,651
- B) \$608
- C) \$435
- D) \$1,043

58) Malakan Corporation has two production departments, Machining and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Machining Department's predetermined overhead rate is based on machine-hours and the Finishing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Machining	Finishing
Machine-hours	18,000	11,000
Direct labor-hours	2,000	9,000
Total fixed manufacturing overhead cost	\$ 102,600	\$ 96,300
Variable manufacturing overhead per machine-hour	\$ 2.10	
Variable manufacturing overhead per direct labor-hour		\$ 3.90

During the current month the company started and finished Job K368. The following data were recorded for this job:

Job K368:	Machining	Finishing
Machine-hours	80	30
Direct labor-hours	20	40

The amount of overhead applied in the Machining Department to Job K368 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$856.00
- B) \$168.00
- C) \$624.00
- D) \$140,400.00

59) Mahon Corporation has two production departments, Casting and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Casting Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Casting	Customizing
Machine-hours	17,800	14,800
Direct labor-hours	6,400	7,400
Total fixed manufacturing overhead cost	\$ 106,800	\$ 56,240
Variable manufacturing overhead per machine-hour	\$ 1.70	
Variable manufacturing overhead per direct labor-hour		\$ 3.40

During the current month the company started and finished Job T138. The following data were recorded for this job:

Job T138:	Casting	Customizing
Machine-hours	90	40
Direct labor-hours	15	90

The amount of overhead applied in the Customizing Department to Job T138 is closest to:
(Round your intermediate calculations to 2 decimal places.)

- A) \$576.00
- B) \$81,400.00
- C) \$990.00
- D) \$288.00

60) Mahon Corporation has two production departments, Casting and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Casting Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Casting	Customizing
Machine-hours	18,000	14,000
Direct labor-hours	2,000	7,000

Total fixed manufacturing overhead cost	\$ 124,200	\$ 68,600
Variable manufacturing overhead per machine-hour	\$ 1.90	
Variable manufacturing overhead per direct labor-hour		\$ 3.80

During the current month the company started and finished Job T138. The following data were recorded for this job:

Job T138:	Casting	Customizing
Machine-hours	70	30
Direct labor-hours	10	60

The amount of overhead applied in the Customizing Department to Job T138 is closest to:
(Round your intermediate calculations to 2 decimal places.)

- A) \$588.00
- B) \$95,200.00
- C) \$816.00
- D) \$228.00

61) Marioni Corporation has two manufacturing departments--Forming and Assembly. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Forming	Assembly	Total
Estimated total machine-hours (MHs)	7,000	3,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 37,100	\$ 9,000	\$ 46,100
Estimated variable manufacturing overhead cost per MH	\$ 1.70	\$ 2.60	

During the most recent month, the company started and completed two jobs--Job B and Job H. There were no beginning inventories. Data concerning those two jobs follow:

	Job B	Job H
Forming machine-hours	4,800	2,200
Assembly machine-hours	1,200	1,800

Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both production departments. The manufacturing overhead applied to Job B is closest to: (Round your intermediate calculations to 2 decimal places.)

- A) \$6,720
- B) \$33,600
- C) \$40,320
- D) \$39,480

62) Bassett Corporation has two production departments, Milling and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Milling Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Milling	Customizing
Machine-hours	16,000	12,000
Direct labor-hours	2,000	8,000
Total fixed manufacturing overhead cost	\$ 118,400	\$ 87,200
Variable manufacturing overhead per machine-hour	\$ 2.10	
Variable manufacturing overhead per direct labor-hour		\$ 3.30

The predetermined overhead rate for the Milling Department is closest to:

- A) \$19.00 per machine-hour
- B) \$2.10 per machine-hour
- C) \$9.50 per machine-hour
- D) \$7.40 per machine-hour

63) Fatzinger Corporation has two production departments, Milling and Assembly. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Milling Department's predetermined overhead rate is based on machine-hours and the Assembly Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Milling	Assembly
Machine-hours	20,000	14,000
Direct labor-hours	2,000	7,000

Total fixed manufacturing overhead cost	\$ 132,000	\$ 57,400
Variable manufacturing overhead per machine-hour	\$ 2.30	
Variable manufacturing overhead per direct labor-hour		\$ 3.40

The predetermined overhead rate for the Assembly Department is closest to:

- A) \$8.20 per direct labor-hour
- B) \$3.40 per direct labor-hour
- C) \$4.06 per direct labor-hour
- D) \$11.60 per direct labor-hour

64) Swango Corporation has two production departments, Casting and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Casting Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Casting	Customizing
Machine-hours	19,000	11,000
Direct labor-hours	1,000	8,000
Total fixed manufacturing overhead cost	\$ 138,700	\$ 86,400
Variable manufacturing overhead per machine-hour	\$ 1.60	
Variable manufacturing overhead per direct labor-hour		\$ 3.00

The estimated total manufacturing overhead for the Customizing Department is closest to:

- A) \$24,000
- B) \$110,400
- C) \$86,400
- D) \$60,379

65) Tarrant Corporation has two manufacturing departments--Casting and Finishing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Casting	Finishing	Total
Estimated total machine-hours (MHs)	1,000	4,000	5,000
Estimated total fixed manufacturing overhead cost	\$ 5,700	\$ 11,200	\$ 16,900
Estimated variable manufacturing overhead cost per MH	\$ 1.30	\$ 2.90	

Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both departments. The departmental predetermined overhead rate in the Casting Department is closest to:

- A) \$5.70
- B) \$1.30
- C) \$5.96
- D) \$7.00

66) Prayer Corporation has two production departments, Machining and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Machining Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Machining	Customizing
Machine-hours	19,000	13,000
Direct labor-hours	1,000	8,000
Total fixed manufacturing overhead cost	\$ 110,200	\$ 68,800
Variable manufacturing overhead per machine-hour	\$ 2.00	
Variable manufacturing overhead per direct labor-hour		\$ 3.60

The estimated total manufacturing overhead for the Machining Department is closest to:

- A) \$148,200
- B) \$110,200
- C) \$38,000
- D) \$299,725

67) Camm Corporation has two manufacturing departments--Forming and Assembly. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Forming	Assembly	Total
Estimated total machine-hours (MHs)	3,000	2,000	5,000
Estimated total fixed manufacturing overhead cost	\$ 12,600	\$ 4,600	\$ 17,200
Estimated variable manufacturing overhead cost per MH	\$ 1.70	\$ 2.50	

Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both departments. The departmental predetermined overhead rate in the Assembly Department is closest to:

- A) \$2.50
- B) \$2.30
- C) \$4.80
- D) \$5.46

68) Huang Aerospace Corporation manufactures aviation control panels in two departments, Fabrication and Assembly. In the Fabrication department, Huang uses a predetermined overhead rate of \$30 per machine-hour. In the Assembly department, Huang uses a predetermined overhead rate of \$12 per direct labor-hour. During the current year, Job #X2984 incurred the following number of hours in each department:

	Fabrication	Assembly
Machine-hours	40	12
Direct labor-hours	3	25

What is the total amount of manufacturing overhead that Huang should have applied to Job #X2984 during the current year?

- A) \$1,200
- B) \$1,500
- C) \$1,560
- D) \$1,734

69) Sargent Corporation applies overhead cost to jobs on the basis of 80% of direct labor cost. If Job 210 shows \$11,680 of manufacturing overhead cost applied, how much was the direct labor cost on the job?

- A) \$14,600
- B) \$21,024
- C) \$9,344
- D) \$11,680

70) Sargent Corporation applies overhead cost to jobs on the basis of 80% of direct labor cost. If Job 210 shows \$10,000 of manufacturing overhead cost applied, how much was the direct labor cost on the job?

- A) \$12,500
- B) \$11,000
- C) \$8,000
- D) \$10,000

71) Kreuzer Corporation is using a predetermined overhead rate of \$22.30 per machine-hour that was based on estimated total fixed manufacturing overhead of \$446,000 and 20,000 machine-hours for the period. The company incurred actual total fixed manufacturing overhead of \$409,000 and 18,200 total machine-hours during the period. The amount of manufacturing overhead that would have been applied to all jobs during the period is closest to:

- A) \$446,000
- B) \$37,000
- C) \$372,190
- D) \$405,860

72) Kavin Corporation uses a predetermined overhead rate base on machine-hours that it recalculates at the beginning of each year. The company has provided the following data for the most recent year.

Predetermined overhead rate	\$ 23.60 per machine-hour
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Estimated total fixed manufacturing overhead from the beginning of the year	\$ 708,000
Estimated activity level from the beginning of the year	30,000 machine-hours
Actual total fixed manufacturing overhead	\$ 752,000
Actual activity level	28,100 machine-hours

The amount of manufacturing overhead that would have been applied to all jobs during the period is closest to:

- A) \$663,160
- B) \$708,000
- C) \$44,000
- D) \$704,373

73) Job 910 was recently completed. The following data have been recorded on its job cost sheet:

Direct materials	\$ 2,412
Direct labor-hours	74 labor-hours
Direct labor wage rate	\$ 21 per labor-hour
Machine-hours	137 machine-hours

The Corporation applies manufacturing overhead on the basis of machine-hours. The predetermined overhead rate is \$22 per machine-hour. The total cost that would be recorded on the job cost sheet for Job 910 would be:

- A) \$3,966
- B) \$6,980
- C) \$7,820
- D) \$4,304

74) Job 910 was recently completed. The following data have been recorded on its job cost sheet:

Direct materials	\$ 3,193
Direct labor-hours	21 labor-hours
Direct labor wage rate	\$ 12 per labor-hour

Machine-hours

166 machine-hours

The Corporation applies manufacturing overhead on the basis of machine-hours. The predetermined overhead rate is \$15 per machine-hour. The total cost that would be recorded on the job cost sheet for Job 910 would be:

- A) \$3,220
- B) \$3,760
- C) \$5,935
- D) \$3,445

75) Grib Corporation uses a predetermined overhead rate based on direct labor cost to apply manufacturing overhead to jobs. The predetermined overhead rates for the year are 200% of direct labor cost for Department A and 50% of direct labor cost for Department B. Job 436, started and completed during the year, was charged with the following costs:

	Department A	Department B
Direct materials	\$ 50,000	\$ 10,000
Direct labor	?	\$ 60,000
Manufacturing overhead	\$ 80,000	?

The total manufacturing cost assigned to Job 436 was:

- A) \$360,000
- B) \$390,000
- C) \$270,000
- D) \$480,000

76) The following data have been recorded for recently completed Job 450 on its job cost sheet. Direct materials cost was \$2,070. A total of 35 direct labor-hours and 243 machine-hours were worked on the job. The direct labor wage rate is \$18 per labor-hour. The Corporation applies manufacturing overhead on the basis of machine-hours. The predetermined overhead rate is \$22 per machine-hour. The total cost for the job on its job cost sheet would be:

- A) \$5,002
- B) \$10,191
- C) \$8,046
- D) \$5,421

77) The following data have been recorded for recently completed Job 450 on its job cost sheet. Direct materials cost was \$3,044. A total of 46 direct labor-hours and 104 machine-hours were worked on the job. The direct labor wage rate is \$15 per labor-hour. The Corporation applies manufacturing overhead on the basis of machine-hours. The predetermined overhead rate is \$13 per machine-hour. The total cost for the job on its job cost sheet would be:

- A) \$4,332
- B) \$3,734
- C) \$3,072
- D) \$5,086

78) Dejarnette Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	80,000
Total fixed manufacturing overhead cost	\$ 416,000
Variable manufacturing overhead per machine-hour	\$ 3.10

The estimated total manufacturing overhead is closest to:

- A) \$416,003
- B) \$248,000
- C) \$664,000
- D) \$416,000

79) Dejarnette Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	80,000
Total fixed manufacturing overhead cost	\$ 416,000
Variable manufacturing overhead per machine-hour	\$ 3.10

The predetermined overhead rate is closest to:

- A) \$8.30 per machine-hour
- B) \$11.40 per machine-hour
- C) \$5.20 per machine-hour
- D) \$3.10 per machine-hour

80) Odonnel Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$36,000, variable manufacturing overhead of \$2.80 per direct labor-hour, and 10,000 direct labor-hours. The estimated total manufacturing overhead is closest to:

- A) \$64,000
- B) \$36,000
- C) \$28,000
- D) \$36,003

81) Odonnel Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$36,000, variable manufacturing overhead of \$2.80 per direct labor-hour, and 10,000 direct labor-hours. The predetermined overhead rate is closest to:

- A) \$2.80 per direct labor-hour
- B) \$6.40 per direct labor-hour
- C) \$3.60 per direct labor-hour
- D) \$9.20 per direct labor-hour

82) Morataya Corporation has two manufacturing departments--Machining and Assembly. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Machining	Assembly	Total
Estimated total machine-hours (MHs)	7,000	3,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 39,200	\$ 6,600	\$ 45,800

Estimated variable manufacturing overhead cost per MH	\$ 1.90	\$ 2.10
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During the most recent month, the company started and completed two jobs--Job B and Job G. There were no beginning inventories. Data concerning those two jobs follow:

	Job B	Job G
Direct materials	\$ 14,800	\$ 8,300
Direct labor cost	\$ 22,000	\$ 8,900
Machining machine-hours	4,800	2,200
Assembly machine-hours	1,200	1,800

Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours. That predetermined manufacturing overhead rate is closest to:

- A) \$4.00
- B) \$7.50
- C) \$4.58
- D) \$6.54

83) Morataya Corporation has two manufacturing departments--Machining and Assembly. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Machining	Assembly	Total
Estimated total machine-hours (MHs)	7,000	3,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 39,200	\$ 6,600	\$ 45,800
Estimated variable manufacturing overhead cost per MH	\$ 1.90	\$ 2.10	

During the most recent month, the company started and completed two jobs--Job B and Job G. There were no beginning inventories. Data concerning those two jobs follow:

	Job B	Job G
Direct materials	\$ 14,800	\$ 8,300
Direct labor cost	\$ 22,000	\$ 8,900
Machining machine-hours	4,800	2,200
Assembly machine-hours	1,200	1,800

Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours. The amount of manufacturing overhead applied to Job B is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$31,392
- B) \$27,480
- C) \$39,240
- D) \$7,848

84) Morataya Corporation has two manufacturing departments--Machining and Assembly. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Machining	Assembly	Total
Estimated total machine-hours (MHs)	7,000	3,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 39,200	\$ 6,600	\$ 45,800
Estimated variable manufacturing overhead cost per MH	\$ 1.90	\$ 2.10	

During the most recent month, the company started and completed two jobs--Job B and Job G. There were no beginning inventories. Data concerning those two jobs follow:

	Job B	Job G
Direct materials	\$ 14,800	\$ 8,300
Direct labor cost	\$ 22,000	\$ 8,900
Machining machine-hours	4,800	2,200
Assembly machine-hours	1,200	1,800

Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours. The amount of manufacturing overhead applied to Job G is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$14,388
- B) \$26,160
- C) \$11,772
- D) \$18,320

85) Housholder Corporation uses a predetermined overhead rate base on machine-hours that it recalculates at the beginning of each year. The company has provided the following data for the most recent year.

Estimated total fixed manufacturing overhead from the beginning of the year \$ 310,000

Estimated activity level from the beginning of the year	20,000 machine-hours
Actual total fixed manufacturing overhead	\$ 338,000
Actual activity level	18,300 machine-hours

The predetermined overhead rate is closest to:

- A) \$18.47
- B) \$16.94
- C) \$16.90
- D) \$15.50

86) Housholder Corporation uses a predetermined overhead rate base on machine-hours that it recalculates at the beginning of each year. The company has provided the following data for the most recent year.

Estimated total fixed manufacturing overhead from the beginning of the year	\$ 310,000
Estimated activity level from the beginning of the year	20,000 machine-hours
Actual total fixed manufacturing overhead	\$ 338,000
Actual activity level	18,300 machine-hours

The amount of manufacturing overhead that would have been applied to all jobs during the period is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$28,000
- B) \$309,270
- C) \$310,000
- D) \$283,650

87) Gerstein Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$90,000, variable manufacturing overhead of \$3.70 per direct labor-hour, and 50,000 direct labor-hours. The company recently completed Job M800 which required 150 direct labor-hours.

The estimated total manufacturing overhead is closest to:

- A) \$90,000
- B) \$275,000
- C) \$185,000
- D) \$90,004

88) Gerstein Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$90,000, variable manufacturing overhead of \$3.70 per direct labor-hour, and 50,000 direct labor-hours. The company recently completed Job M800 which required 150 direct labor-hours.

The predetermined overhead rate is closest to:

- A) \$1.80 per direct labor-hour
- B) \$5.50 per direct labor-hour
- C) \$9.20 per direct labor-hour
- D) \$3.70 per direct labor-hour

89) Gerstein Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$90,000, variable manufacturing overhead of \$3.70 per direct labor-hour, and 50,000 direct labor-hours. The company recently completed Job M800 which required 150 direct labor-hours.

The amount of overhead applied to Job M800 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$270
- B) \$1,380
- C) \$825
- D) \$555

90) Krier Corporation uses a predetermined overhead rate that was based on estimated total fixed manufacturing overhead of \$738,000 and 30,000 direct labor-hours for the period. The company incurred actual total fixed manufacturing overhead of \$792,000 and 31,500 total direct labor-hours during the period.

The predetermined overhead rate is closest to:

- A) \$26.40
- B) \$25.14
- C) \$23.43
- D) \$24.60

91) Krier Corporation uses a predetermined overhead rate that was based on estimated total fixed manufacturing overhead of \$738,000 and 30,000 direct labor-hours for the period. The company incurred actual total fixed manufacturing overhead of \$792,000 and 31,500 total direct labor-hours during the period.

The amount of manufacturing overhead that would have been applied to all jobs during the period is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$831,600
- B) \$54,000
- C) \$774,900
- D) \$738,000

92) Harootunian Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	80,000
Total fixed manufacturing overhead cost	\$ 312,000
Variable manufacturing overhead per machine-hour	\$ 2.10

Recently, Job T629 was completed with the following characteristics:

Number of units in the job	50
Total machine-hours	200

The estimated total manufacturing overhead is closest to:

- A) \$168,000
- B) \$312,002
- C) \$312,000
- D) \$480,000

93) Harootunian Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	80,000
Total fixed manufacturing overhead cost	\$ 312,000
Variable manufacturing overhead per machine-hour	\$ 2.10

Recently, Job T629 was completed with the following characteristics:

Number of units in the job	50
Total machine-hours	200

The predetermined overhead rate is closest to:

- A) \$8.10 per machine-hour
- B) \$2.10 per machine-hour
- C) \$3.90 per machine-hour
- D) \$6.00 per machine-hour

94) Harootunian Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	80,000
Total fixed manufacturing overhead cost	\$ 312,000
Variable manufacturing overhead per machine-hour	\$ 2.10

Recently, Job T629 was completed with the following characteristics:

Number of units in the job	50
Total machine-hours	200

The amount of overhead applied to Job T629 is closest to:

- A) \$1,620
- B) \$780
- C) \$1,200
- D) \$420

95) Dehner Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

Total direct labor-hours	40,000
Total fixed manufacturing overhead cost	\$ 96,000

Variable manufacturing overhead per direct labor-hour \$ 3.00

Recently, Job P951 was completed with the following characteristics:

Number of units in the job	20
Total direct labor-hours	100
Direct materials	\$ 755
Direct labor cost	\$ 4,000

The estimated total manufacturing overhead is closest to:

- A) \$120,000
- B) \$96,003
- C) \$96,000
- D) \$216,000

96) Dehner Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

Total direct labor-hours	40,000
Total fixed manufacturing overhead cost	\$ 96,000
Variable manufacturing overhead per direct labor-hour	\$ 3.00

Recently, Job P951 was completed with the following characteristics:

Number of units in the job	20
Total direct labor-hours	100
Direct materials	\$ 755
Direct labor cost	\$ 4,000

The predetermined overhead rate is closest to:

- A) \$2.40 per direct labor-hour
- B) \$3.00 per direct labor-hour
- C) \$8.40 per direct labor-hour
- D) \$5.40 per direct labor-hour

97) Dehner Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

Total direct labor-hours	40,000
Total fixed manufacturing overhead cost	\$ 96,000
Variable manufacturing overhead per direct labor-hour	\$ 3.00

Recently, Job P951 was completed with the following characteristics:

Number of units in the job	20
Total direct labor-hours	100
Direct materials	\$ 755
Direct labor cost	\$ 4,000

The amount of overhead applied to Job P951 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$840
- B) \$300
- C) \$540
- D) \$240

98) Dehner Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

Total direct labor-hours	76,000
Total fixed manufacturing overhead cost	\$ 235,600
Variable manufacturing overhead per direct labor-hour	\$ 2.00

Recently, Job P951 was completed with the following characteristics:

Number of units in the job	25
Total direct labor-hours	100
Direct materials	\$ 870
Direct labor cost	\$ 7,600

The total job cost for Job P951 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$8,110
- B) \$8,470
- C) \$1,380
- D) \$8,980

99) Dehner Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

Total direct labor-hours	40,000
Total fixed manufacturing overhead cost	\$ 96,000

Variable manufacturing overhead per direct labor-hour \$ 3.00

Recently, Job P951 was completed with the following characteristics:

Number of units in the job	20
Total direct labor-hours	100
Direct materials	\$ 755
Direct labor cost	\$ 4,000

The total job cost for Job P951 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$4,540
- B) \$4,755
- C) \$1,295
- D) \$5,295

100) Dehner Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

Total direct labor-hours	82,000
Total fixed manufacturing overhead cost	\$ 492,000
Variable manufacturing overhead per direct labor-hour	\$ 6.00

Recently, Job P951 was completed with the following characteristics:

Number of units in the job	20
Total direct labor-hours	100
Direct materials	\$ 600
Direct labor cost	\$ 8,200

The unit product cost for Job P951 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$240.00
- B) \$500.00
- C) \$400.00
- D) \$100.00

101) Dehner Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

Total direct labor-hours	40,000
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Total fixed manufacturing overhead cost	\$ 96,000
Variable manufacturing overhead per direct labor-hour	\$ 3.00

Recently, Job P951 was completed with the following characteristics:

Number of units in the job	20
Total direct labor-hours	100
Direct materials	\$ 755
Direct labor cost	\$ 4,000

The unit product cost for Job P951 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$237.75
- B) \$264.75
- C) \$64.75
- D) \$52.95

102) Branin Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$160,000, variable manufacturing overhead of \$3.40 per direct labor-hour, and 80,000 direct labor-hours. The company has provided the following data concerning Job A578 which was recently completed:

Total direct labor-hours	250
Direct materials	\$ 715
Direct labor cost	\$ 9,000

The estimated total manufacturing overhead is closest to:

- A) \$272,000
- B) \$160,000
- C) \$432,000
- D) \$160,003

103) Branin Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$160,000, variable manufacturing overhead of \$3.40 per direct labor-hour, and 80,000 direct labor-hours. The company has provided the following data concerning Job A578 which was recently completed:

Total direct labor-hours	250
Direct materials	\$ 715
Direct labor cost	\$ 9,000

The predetermined overhead rate is closest to:

- A) \$8.80 per direct labor-hour
- B) \$2.00 per direct labor-hour
- C) \$3.40 per direct labor-hour
- D) \$5.40 per direct labor-hour

104) Branin Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$160,000, variable manufacturing overhead of \$3.40 per direct labor-hour, and 80,000 direct labor-hours. The company has provided the following data concerning Job A578 which was recently completed:

Total direct labor-hours	250
Direct materials	\$ 715
Direct labor cost	\$ 9,000

The amount of overhead applied to Job A578 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$500
- B) \$1,350
- C) \$2,200
- D) \$850

105) Branin Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$160,000, variable manufacturing overhead of \$3.40 per direct labor-hour, and 80,000 direct labor-hours. The company has provided the following data concerning Job A578 which was recently completed:

Total direct labor-hours	250
Direct materials	\$ 715
Direct labor cost	\$ 9,000

The total job cost for Job A578 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$11,065
- B) \$10,350
- C) \$2,065
- D) \$9,715

106) Spang Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	20,000
Total fixed manufacturing overhead cost	\$ 176,000
Variable manufacturing overhead per machine-hour	\$ 2.20

Recently, Job P505 was completed with the following characteristics:

Total machine-hours	200
Direct materials	\$ 540
Direct labor cost	\$ 7,200

The amount of overhead applied to Job P505 is closest to:

- A) \$2,200
- B) \$1,760
- C) \$2,640
- D) \$440

107) Spang Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	20,000
Total fixed manufacturing overhead cost	\$ 176,000
Variable manufacturing overhead per machine-hour	\$ 2.20

Recently, Job P505 was completed with the following characteristics:

Total machine-hours	200
Direct materials	\$ 540
Direct labor cost	\$ 7,200

The total job cost for Job P505 is closest to:

- A) \$9,400
- B) \$9,940
- C) \$7,740
- D) \$2,740

108) Opunui Corporation has two manufacturing departments--Molding and Finishing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Molding	Finishing	Total
Estimated total machine-hours (MHs)	3,250	1,750	5,000
Estimated total fixed manufacturing overhead cost	\$ 13,000	\$ 4,400	\$ 17,400
Estimated variable manufacturing overhead cost per MH	\$ 3.00	\$ 6.00	

During the most recent month, the company started and completed two jobs--Job A and Job M. There were no beginning inventories. Data concerning those two jobs follow:

	Job A	Job M
Direct materials	\$ 16,000	\$ 9,400
Direct labor cost	\$ 22,700	\$ 9,700
Molding machine-hours	1,250	2,000
Finishing machine-hours	1,250	500

Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours. The total manufacturing cost assigned to Job M is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$18,825
- B) \$9,700
- C) \$37,925
- D) \$9,400

109) Opunui Corporation has two manufacturing departments--Molding and Finishing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Molding	Finishing	Total
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Estimated total machine-hours (MHs)	4,000	1,000	5,000
Estimated total fixed manufacturing overhead cost	\$ 19,600	\$ 2,400	\$ 22,000
Estimated variable manufacturing overhead cost per MH	\$ 1.10	\$ 2.10	

During the most recent month, the company started and completed two jobs--Job A and Job M. There were no beginning inventories. Data concerning those two jobs follow:

	Job A	Job M
Direct materials	\$ 13,600	\$ 7,500
Direct labor cost	\$ 20,700	\$ 7,400
Molding machine-hours	2,700	1,300
Finishing machine-hours	400	600

Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours. The total manufacturing cost assigned to Job M is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$10,830
- B) \$7,400
- C) \$25,730
- D) \$7,500

110) Opunui Corporation has two manufacturing departments--Molding and Finishing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Molding	Finishing	Total
Estimated total machine-hours (MHs)	6,500	3,500	10,000
Estimated total fixed manufacturing overhead cost	\$ 27,000	\$ 6,500	\$ 33,500
Estimated variable manufacturing overhead cost per MH	\$ 1.00	\$ 2.00	

During the most recent month, the company started and completed two jobs--Job A and Job M. There were no beginning inventories. Data concerning those two jobs follow:

	Job A	Job M
Direct materials	\$ 17,600	\$ 11,500
Direct labor cost	\$ 24,500	\$ 10,900
Molding machine-hours	2,500	4,000
Finishing machine-hours	2,500	1,000

Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours and uses a markup of 40% on manufacturing cost to establish selling prices. The calculated selling price for Job A is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$65,600
- B) \$91,840
- C) \$112,600
- D) \$26,240

111) Opunui Corporation has two manufacturing departments--Molding and Finishing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Molding	Finishing	Total
Estimated total machine-hours (MHs)	4,000	1,000	5,000
Estimated total fixed manufacturing overhead cost	\$ 19,600	\$ 2,400	\$ 22,000
Estimated variable manufacturing overhead cost per MH	\$ 1.10	\$ 2.10	

During the most recent month, the company started and completed two jobs--Job A and Job M. There were no beginning inventories. Data concerning those two jobs follow:

	Job A	Job M
Direct materials	\$ 13,600	\$ 7,500
Direct labor cost	\$ 20,700	\$ 7,400
Molding machine-hours	2,700	1,300
Finishing machine-hours	400	600

Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours and uses a markup of 40% on manufacturing cost to establish selling prices. The calculated selling price for Job A is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$51,970
- B) \$72,758
- C) \$80,034
- D) \$20,788

112) Lueckenhoff Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$497,000, variable manufacturing overhead of \$2.40 per direct labor-hour, and 70,000 direct labor-hours. The company has provided the following data concerning Job T498 which was recently completed:

Number of units in the job	40
Total direct labor-hours	80
Direct materials	\$ 950
Direct labor cost	\$ 2,720

The estimated total manufacturing overhead is closest to:

- A) \$665,000
- B) \$497,002
- C) \$497,000
- D) \$168,000

113) Lueckenhoff Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$497,000, variable manufacturing overhead of \$2.40 per direct labor-hour, and 70,000 direct labor-hours. The company has provided the following data concerning Job T498 which was recently completed:

Number of units in the job	40
Total direct labor-hours	80
Direct materials	\$ 950
Direct labor cost	\$ 2,720

The predetermined overhead rate is closest to:

- A) \$11.90 per direct labor-hour
- B) \$7.10 per direct labor-hour
- C) \$9.50 per direct labor-hour
- D) \$2.40 per direct labor-hour

114) Lueckenhoff Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$497,000, variable manufacturing overhead of \$2.40 per direct labor-hour, and 70,000 direct labor-hours. The company has provided the following data concerning Job T498 which was recently completed:

Number of units in the job	40
Total direct labor-hours	80
Direct materials	\$ 950
Direct labor cost	\$ 2,720

The amount of overhead applied to Job T498 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$568
- B) \$192
- C) \$760
- D) \$952

115) Lueckenhoff Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$497,000, variable manufacturing overhead of \$2.40 per direct labor-hour, and 70,000 direct labor-hours. The company has provided the following data concerning Job T498 which was recently completed:

Number of units in the job	40
Total direct labor-hours	80
Direct materials	\$ 950
Direct labor cost	\$ 2,720

The total job cost for Job T498 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$4,430
- B) \$3,670
- C) \$1,710
- D) \$3,480

116) Lueckenhoff Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$497,000, variable manufacturing overhead of \$2.40 per direct labor-hour, and 70,000 direct labor-hours. The company has provided the following data concerning Job T498 which was recently completed:

Number of units in the job	40
Total direct labor-hours	80
Direct materials	\$ 950
Direct labor cost	\$ 2,720

The unit product cost for Job T498 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$55.38
- B) \$42.75
- C) \$91.75
- D) \$110.75

117) Nielsen Corporation has two manufacturing departments--Machining and Assembly. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Machining	Assembly	Total
Estimated total machine-hours (MHs)	1,000	4,000	5,000
Estimated total fixed manufacturing overhead cost	\$ 4,700	\$ 10,800	\$ 15,500
Estimated variable manufacturing overhead cost per MH	\$ 1.20	\$ 2.20	

During the most recent month, the company started and completed two jobs--Job F and Job M. There were no beginning inventories. Data concerning those two jobs follow:

	Job F	Job M
Direct materials	\$ 13,000	\$ 7,400
Direct labor cost	\$ 20,400	\$ 8,800
Machining machine-hours	700	300
Assembly machine-hours	1,600	2,400

Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. The total manufacturing cost assigned to Job F is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$13,000
- B) \$20,400
- C) \$45,130
- D) \$11,730

118) Nielsen Corporation has two manufacturing departments--Machining and Assembly. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Machining	Assembly	Total
Estimated total machine-hours (MHs)	1,000	4,000	5,000
Estimated total fixed manufacturing overhead cost	\$ 4,700	\$ 10,800	\$ 15,500
Estimated variable manufacturing overhead cost per MH	\$ 1.20	\$ 2.20	

During the most recent month, the company started and completed two jobs--Job F and Job M. There were no beginning inventories. Data concerning those two jobs follow:

	Job F	Job M
Direct materials	\$ 13,000	\$ 7,400
Direct labor cost	\$ 20,400	\$ 8,800
Machining machine-hours	700	300
Assembly machine-hours	1,600	2,400

Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours and uses a markup of 40% on manufacturing cost to establish selling prices. The calculated selling price for Job M is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$46,154
- B) \$41,958
- C) \$29,970
- D) \$11,988

119) Decorte Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

Total direct labor-hours	10,000
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Total fixed manufacturing overhead cost	\$ 33,000
Variable manufacturing overhead per direct labor-hour	\$ 2.50

Recently, Job K332 was completed with the following characteristics:

Number of units in the job	70
Total direct labor-hours	140
Direct materials	\$ 455
Direct labor cost	\$ 5,320

The amount of overhead applied to Job K332 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$812
- B) \$350
- C) \$462
- D) \$1,162

120) Decorte Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

Total direct labor-hours	10,000
Total fixed manufacturing overhead cost	\$ 33,000
Variable manufacturing overhead per direct labor-hour	\$ 2.50

Recently, Job K332 was completed with the following characteristics:

Number of units in the job	70
Total direct labor-hours	140
Direct materials	\$ 455
Direct labor cost	\$ 5,320

The total job cost for Job K332 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$5,775
- B) \$6,132
- C) \$6,587
- D) \$1,267

121) Decorte Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

Total direct labor-hours	10,000
Total fixed manufacturing overhead cost	\$ 33,000
Variable manufacturing overhead per direct labor-hour	\$ 2.50

Recently, Job K332 was completed with the following characteristics:

Number of units in the job	70
Total direct labor-hours	140
Direct materials	\$ 455
Direct labor cost	\$ 5,320

The unit product cost for Job K332 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$94.10
- B) \$18.10
- C) \$82.50
- D) \$47.05

122) Beans Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$162,000, variable manufacturing overhead of \$2.80 per direct labor-hour, and 60,000 direct labor-hours. Recently, Job K818 was completed with the following characteristics:

Number of units in the job	10
Total direct labor-hours	50
Direct materials	\$ 920
Direct labor cost	\$ 1,400

The estimated total manufacturing overhead is closest to:

- A) \$330,000
- B) \$162,000
- C) \$168,000
- D) \$162,003

123) Beans Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$162,000, variable manufacturing overhead of \$2.80 per direct labor-hour, and 60,000 direct labor-hours. Recently, Job K818 was completed with the following characteristics:

Number of units in the job	10
Total direct labor-hours	50
Direct materials	\$ 920
Direct labor cost	\$ 1,400

The predetermined overhead rate is closest to:

- A) \$5.50 per direct labor-hour
- B) \$8.30 per direct labor-hour
- C) \$2.80 per direct labor-hour
- D) \$2.70 per direct labor-hour

124) Beans Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$162,000, variable manufacturing overhead of \$2.80 per direct labor-hour, and 60,000 direct labor-hours. Recently, Job K818 was completed with the following characteristics:

Number of units in the job	10
Total direct labor-hours	50
Direct materials	\$ 920
Direct labor cost	\$ 1,400

The amount of overhead applied to Job K818 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$135
- B) \$140
- C) \$415
- D) \$275

125) Beans Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$162,000, variable manufacturing overhead of \$2.80 per direct labor-hour, and 60,000 direct labor-hours. Recently, Job K818 was completed with the following characteristics:

Number of units in the job	10
Total direct labor-hours	50
Direct materials	\$ 920
Direct labor cost	\$ 1,400

The total job cost for Job K818 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$1,675
- B) \$2,595
- C) \$1,195
- D) \$2,320

126) Beans Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$162,000, variable manufacturing overhead of \$2.80 per direct labor-hour, and 60,000 direct labor-hours. Recently, Job K818 was completed with the following characteristics:

Number of units in the job	10
Total direct labor-hours	50
Direct materials	\$ 920
Direct labor cost	\$ 1,400

The unit product cost for Job K818 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$51.90
- B) \$259.50
- C) \$232.00
- D) \$119.50

127) Beans Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$162,000, variable manufacturing overhead of \$2.80 per direct labor-hour, and 60,000 direct labor-hours. Recently, Job K818 was completed with the following characteristics:

Number of units in the job	10
Total direct labor-hours	50
Direct materials	\$ 920
Direct labor cost	\$ 1,400

If the company marks up its unit product costs by 40% then the selling price for a unit in Job K818 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$363.30
- B) \$103.80
- C) \$383.30
- D) \$324.80

128) Lupo Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	30,000
Total fixed manufacturing overhead cost	\$ 252,000
Variable manufacturing overhead per machine-hour	\$ 2.10

Recently, Job T687 was completed with the following characteristics:

Number of units in the job	10
Total machine-hours	30
Direct materials	\$ 675
Direct labor cost	\$ 1,050

The estimated total manufacturing overhead is closest to:

- A) \$315,000
- B) \$252,000
- C) \$252,002
- D) \$63,000

129) Lupo Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	30,000
Total fixed manufacturing overhead cost	\$ 252,000
Variable manufacturing overhead per machine-hour	\$ 2.10

Recently, Job T687 was completed with the following characteristics:

Number of units in the job	10
Total machine-hours	30
Direct materials	\$ 675
Direct labor cost	\$ 1,050

The predetermined overhead rate is closest to:

- A) \$12.60 per machine-hour
- B) \$10.50 per machine-hour
- C) \$8.40 per machine-hour
- D) \$2.10 per machine-hour

130) Lupo Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	33,000
Total fixed manufacturing overhead cost	\$ 660,000
Variable manufacturing overhead per machine-hour	\$ 6

Recently, Job T687 was completed with the following characteristics:

Number of units in the job	10
Total machine-hours	40
Direct materials	\$ 715
Direct labor cost	\$ 1,430

The amount of overhead applied to Job T687 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$1,040.00
- B) \$660.00
- C) \$1,167.40
- D) \$208.00

131) Lupo Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	30,000
Total fixed manufacturing overhead cost	\$ 252,000
Variable manufacturing overhead per machine-hour	\$ 2.10

Recently, Job T687 was completed with the following characteristics:

Number of units in the job	10
Total machine-hours	30
Direct materials	\$ 675
Direct labor cost	\$ 1,050

The amount of overhead applied to Job T687 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$315
- B) \$252
- C) \$378
- D) \$63

132) Lupo Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	32,500
Total fixed manufacturing overhead cost	\$ 455,000
Variable manufacturing overhead per machine-hour	\$ 5

Recently, Job T687 was completed with the following characteristics:

Number of units in the job	10
Total machine-hours	40
Direct materials	\$ 710
Direct labor cost	\$ 1,420

The total job cost for Job T687 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$2,180
- B) \$2,130
- C) \$1,470
- D) \$2,890

133) Lupo Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	30,000
Total fixed manufacturing overhead cost	\$ 252,000
Variable manufacturing overhead per machine-hour	\$ 2.10

Recently, Job T687 was completed with the following characteristics:

Number of units in the job	10
Total machine-hours	30
Direct materials	\$ 675

Direct labor cost \$ 1,050

The total job cost for Job T687 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$1,365
- B) \$1,725
- C) \$990
- D) \$2,040

134) Lupo Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	31,200
Total fixed manufacturing overhead cost	\$ 156,000
Variable manufacturing overhead per machine-hour	\$ 3

Recently, Job T687 was completed with the following characteristics:

Number of units in the job	10
Total machine-hours	30
Direct materials	\$ 665
Direct labor cost	\$ 1,330

The unit product cost for Job T687 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$90.50
- B) \$74.50
- C) \$199.50
- D) \$223.50

135) Lupo Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	30,000
Total fixed manufacturing overhead cost	\$ 252,000
Variable manufacturing overhead per machine-hour	\$ 2.10

Recently, Job T687 was completed with the following characteristics:

Number of units in the job	10
Total machine-hours	30

Direct materials	\$ 675
Direct labor cost	\$ 1,050

The unit product cost for Job T687 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$99.00
- B) \$68.00
- C) \$172.50
- D) \$204.00

136) Lupo Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	32,000
Total fixed manufacturing overhead cost	\$ 352,000
Variable manufacturing overhead per machine-hour	\$ 3.00

Recently, Job T687 was completed with the following characteristics:

Number of units in the job	10
Total machine-hours	40
Direct materials	\$ 675
Direct labor cost	\$ 1,350

If the company marks up its unit product costs by 40% then the selling price for a unit in Job T687 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$103.40
- B) \$546.00
- C) \$361.90
- D) \$283.50

137) Lupo Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	30,000
Total fixed manufacturing overhead cost	\$ 252,000
Variable manufacturing overhead per machine-hour	\$ 2.10

Recently, Job T687 was completed with the following characteristics:

Number of units in the job	10
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Total machine-hours	30
Direct materials	\$ 675
Direct labor cost	\$ 1,050

If the company marks up its unit product costs by 40% then the selling price for a unit in Job T687 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$81.60
- B) \$305.60
- C) \$285.60
- D) \$241.50

138) Ronson Corporation has two manufacturing departments--Casting and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Casting	Customizing	Total
Estimated total machine-hours (MHs)	5,000	5,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 27,500	\$ 10,500	\$ 38,000
Estimated variable manufacturing overhead cost per MH	\$ 1.70	\$ 2.60	

During the most recent month, the company started and completed two jobs--Job C and Job G. There were no beginning inventories. Data concerning those two jobs follow:

	Job C	Job G
Direct materials	\$ 10,600	\$ 6,800
Direct labor cost	\$ 23,700	\$ 7,900
Casting machine-hours	3,400	1,600
Customizing machine-hours	2,000	3,000

Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours. The amount of manufacturing overhead applied to Job C is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$32,130
- B) \$11,900
- C) \$20,230
- D) \$20,520

139) Ronson Corporation has two manufacturing departments--Casting and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Casting	Customizing	Total
Estimated total machine-hours (MHs)	5,000	5,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 27,500	\$ 10,500	\$ 38,000
Estimated variable manufacturing overhead cost per MH	\$ 1.70	\$ 2.60	

During the most recent month, the company started and completed two jobs--Job C and Job G. There were no beginning inventories. Data concerning those two jobs follow:

	Job C	Job G
Direct materials	\$ 10,600	\$ 6,800
Direct labor cost	\$ 23,700	\$ 7,900
Casting machine-hours	3,400	1,600
Customizing machine-hours	2,000	3,000

Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours. The total manufacturing cost assigned to Job G is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$42,070
- B) \$27,370
- C) \$6,800
- D) \$7,900

140) Sivret Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	80,000
Total fixed manufacturing overhead cost	\$ 624,000
Variable manufacturing overhead per machine-hour	\$ 3.10

Recently, Job M598 was completed with the following characteristics:

Number of units in the job	60
Total machine-hours	300
Direct materials	\$ 645
Direct labor cost	\$ 9,000

The amount of overhead applied to Job M598 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$930
- B) \$4,200
- C) \$2,340
- D) \$3,270

141) Sivret Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	80,000
Total fixed manufacturing overhead cost	\$ 624,000
Variable manufacturing overhead per machine-hour	\$ 3.10

Recently, Job M598 was completed with the following characteristics:

Number of units in the job	60
Total machine-hours	300
Direct materials	\$ 645
Direct labor cost	\$ 9,000

The total job cost for Job M598 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$12,270
- B) \$9,645
- C) \$3,915
- D) \$12,915

142) Sivret Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	80,000
Total fixed manufacturing overhead cost	\$ 624,000
Variable manufacturing overhead per machine-hour	\$ 3.10

Recently, Job M598 was completed with the following characteristics:

Number of units in the job	60
Total machine-hours	300
Direct materials	\$ 645
Direct labor cost	\$ 9,000

The unit product cost for Job M598 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$65.25
- B) \$160.75
- C) \$215.25
- D) \$43.05

143) Sivret Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	80,000
Total fixed manufacturing overhead cost	\$ 624,000
Variable manufacturing overhead per machine-hour	\$ 3.10

Recently, Job M598 was completed with the following characteristics:

Number of units in the job	60
Total machine-hours	300
Direct materials	\$ 645
Direct labor cost	\$ 9,000

If the company marks up its unit product costs by 40% then the selling price for a unit in Job M598 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$321.35
- B) \$225.05
- C) \$86.10
- D) \$301.35

144) Levron Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$58,000, variable manufacturing overhead of \$2.00 per machine-hour, and 20,000 machine-hours. The company has provided the following data concerning Job P978 which was recently completed:

Number of units in the job	20
Total machine-hours	80
Direct materials	\$ 500
Direct labor cost	\$ 2,640

The predetermined overhead rate is closest to:

- A) \$2.90 per machine-hour
- B) \$2.00 per machine-hour
- C) \$4.90 per machine-hour
- D) \$6.90 per machine-hour

145) Levron Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$58,000, variable manufacturing overhead of \$2.00 per machine-hour, and 20,000 machine-hours. The company has provided the following data concerning Job P978 which was recently completed:

Number of units in the job	20
Total machine-hours	80
Direct materials	\$ 500
Direct labor cost	\$ 2,640

The amount of overhead applied to Job P978 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$232
- B) \$160
- C) \$392
- D) \$552

146) Levron Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$58,000, variable manufacturing overhead of \$2.00 per machine-hour, and 20,000 machine-hours. The company has provided the following data concerning Job P978 which was recently completed:

Number of units in the job	20
Total machine-hours	80
Direct materials	\$ 500
Direct labor cost	\$ 2,640

The total job cost for Job P978 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$3,140
- B) \$892
- C) \$3,532
- D) \$3,032

147) Levron Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$58,000, variable manufacturing overhead of \$2.00 per machine-hour, and 20,000 machine-hours. The company has provided the following data concerning Job P978 which was recently completed:

Number of units in the job	20
Total machine-hours	80
Direct materials	\$ 500
Direct labor cost	\$ 2,640

The unit product cost for Job P978 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$176.60
- B) \$157.00
- C) \$44.60
- D) \$44.15

148) Levron Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$58,000, variable manufacturing overhead of \$2.00 per machine-hour, and 20,000 machine-hours. The company has provided the following data concerning Job P978 which was recently completed:

Number of units in the job	20
Total machine-hours	80
Direct materials	\$ 500
Direct labor cost	\$ 2,640

If the company marks up its unit product costs by 30% then the selling price for a unit in Job P978 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$249.58
- B) \$229.58
- C) \$204.10
- D) \$52.98

149) Bolander Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	70,000
Total fixed manufacturing overhead cost	\$ 294,000
Variable manufacturing overhead per machine-hour	\$ 2.30

Recently, Job M825 was completed with the following characteristics:

Number of units in the job	20
Total machine-hours	80
Direct materials	\$ 665
Direct labor cost	\$ 1,840

The predetermined overhead rate is closest to:

- A) \$8.80 per machine-hour
- B) \$6.50 per machine-hour
- C) \$2.30 per machine-hour
- D) \$4.20 per machine-hour

150) Bolander Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	70,000
Total fixed manufacturing overhead cost	\$ 294,000
Variable manufacturing overhead per machine-hour	\$ 2.30

Recently, Job M825 was completed with the following characteristics:

Number of units in the job	20
Total machine-hours	80
Direct materials	\$ 665
Direct labor cost	\$ 1,840

The amount of overhead applied to Job M825 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$184
- B) \$520
- C) \$704
- D) \$336

151) Bolander Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	70,000
Total fixed manufacturing overhead cost	\$ 294,000
Variable manufacturing overhead per machine-hour	\$ 2.30

Recently, Job M825 was completed with the following characteristics:

Number of units in the job	20
Total machine-hours	80
Direct materials	\$ 665
Direct labor cost	\$ 1,840

The total job cost for Job M825 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$2,360
- B) \$2,505
- C) \$1,185
- D) \$3,025

152) Bolander Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	70,000
Total fixed manufacturing overhead cost	\$ 294,000
Variable manufacturing overhead per machine-hour	\$ 2.30

Recently, Job M825 was completed with the following characteristics:

Number of units in the job	20
Total machine-hours	80
Direct materials	\$ 665
Direct labor cost	\$ 1,840

The unit product cost for Job M825 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$37.81
- B) \$59.25
- C) \$151.25
- D) \$125.25

153) Bolander Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	70,000
Total fixed manufacturing overhead cost	\$ 294,000
Variable manufacturing overhead per machine-hour	\$ 2.30

Recently, Job M825 was completed with the following characteristics:

Number of units in the job	20
Total machine-hours	80
Direct materials	\$ 665
Direct labor cost	\$ 1,840

If the company marks up its unit product costs by 40% then the selling price for a unit in Job M825 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$60.50
- B) \$175.35
- C) \$211.75
- D) \$231.75

154) Cull Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$462,000, variable manufacturing overhead of \$2.20 per machine-hour, and 60,000 machine-hours. The company has provided the following data concerning Job X455 which was recently completed:

Number of units in the job	20
Total machine-hours	80
Direct materials	\$ 940
Direct labor cost	\$ 2,240

The amount of overhead applied to Job X455 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$176
- B) \$792
- C) \$968
- D) \$616

155) Cull Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$462,000, variable manufacturing overhead of \$2.20 per machine-hour, and 60,000 machine-hours. The company has provided the following data concerning Job X455 which was recently completed:

Number of units in the job	20
Total machine-hours	80
Direct materials	\$ 940
Direct labor cost	\$ 2,240

The total job cost for Job X455 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$3,972
- B) \$1,732
- C) \$3,180
- D) \$3,032

156) Cull Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$462,000, variable manufacturing overhead of \$2.20 per machine-hour, and 60,000 machine-hours. The company has provided the following data concerning Job X455 which was recently completed:

Number of units in the job	20
Total machine-hours	80
Direct materials	\$ 940
Direct labor cost	\$ 2,240

The unit product cost for Job X455 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$86.60
- B) \$159.00
- C) \$198.60
- D) \$49.65

157) Cull Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$308,000, variable manufacturing overhead of \$2.60 per machine-hour, and 44,000 machine-hours. The company has provided the following data concerning Job X455 which was recently completed:

Number of units in the job	20
Total machine-hours	80
Direct materials	\$ 970
Direct labor cost	\$ 1,940

If the company marks up its unit product costs by 20% then the selling price for a unit in Job X455 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$240.68
- B) \$183.90
- C) \$36.78
- D) \$220.68

158) Cull Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$462,000, variable manufacturing overhead of \$2.20 per machine-hour, and 60,000 machine-hours. The company has provided the following data concerning Job X455 which was recently completed:

Number of units in the job	20
Total machine-hours	80
Direct materials	\$ 940
Direct labor cost	\$ 2,240

If the company marks up its unit product costs by 20% then the selling price for a unit in Job X455 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$258.32
- B) \$190.80
- C) \$39.72
- D) \$238.32

159) Kostelnik Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$237,000, variable manufacturing overhead of \$3.90 per machine-hour, and 30,000 machine-hours. The company has provided the following data concerning Job A496 which was recently completed:

Number of units in the job	20
Total machine-hours	80
Direct materials	\$ 500
Direct labor cost	\$ 2,160

The amount of overhead applied to Job A496 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$1,256
- B) \$632
- C) \$944
- D) \$312

160) Kostelnik Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$237,000, variable manufacturing overhead of \$3.90 per machine-hour, and 30,000 machine-hours. The company has provided the following data concerning Job A496 which was recently completed:

Number of units in the job	20
Total machine-hours	80
Direct materials	\$ 500
Direct labor cost	\$ 2,160

The total job cost for Job A496 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$2,660
- B) \$3,104
- C) \$3,604
- D) \$1,444

161) Kostelnik Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$288,600, variable manufacturing overhead of \$2.60 per machine-hour, and 39,000 machine-hours. The company has provided the following data concerning Job A496 which was recently completed:

Number of units in the job	20
Total machine-hours	80
Direct materials	\$ 830
Direct labor cost	\$ 1,660

The unit product cost for Job A496 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$124.50
- B) \$31.12
- C) \$41.12
- D) \$164.50

162) Kostelnik Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$237,000, variable manufacturing overhead of \$3.90 per machine-hour, and 30,000 machine-hours. The company has provided the following data concerning Job A496 which was recently completed:

Number of units in the job	20
Total machine-hours	80
Direct materials	\$ 500
Direct labor cost	\$ 2,160

The unit product cost for Job A496 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$133.00
- B) \$72.20
- C) \$45.05
- D) \$180.20

163) Kostelnik Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$237,000, variable manufacturing overhead of \$3.90 per machine-hour, and 30,000 machine-hours. The company has provided the following data concerning Job A496 which was recently completed:

Number of units in the job	20
Total machine-hours	80
Direct materials	\$ 500
Direct labor cost	\$ 2,160

If the company marks up its unit product costs by 40% then the selling price for a unit in Job A496 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$186.20
- B) \$272.28
- C) \$72.08
- D) \$252.28

164) Halbur Corporation has two manufacturing departments--Machining and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Machining	Customizing	Total
Estimated total machine-hours (MHs)	6,000	4,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 33,600	\$ 10,000	\$ 43,600
Estimated variable manufacturing overhead cost per MH	\$ 1.80	\$ 2.80	

During the most recent month, the company started and completed two jobs--Job C and Job J. There were no beginning inventories. Data concerning those two jobs follow:

	Job C	Job J
Direct materials	\$ 11,300	\$ 8,100

Direct labor cost	\$ 18,500	\$ 6,300
Machining machine-hours	4,100	1,900
Customizing machine-hours	1,600	2,400

Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours. The amount of manufacturing overhead applied to Job J is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$28,208
- B) \$18,748
- C) \$12,464
- D) \$15,744

165) Halbur Corporation has two manufacturing departments--Machining and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Machining	Customizing	Total
Estimated total machine-hours (MHs)	6,000	4,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 33,600	\$ 10,000	\$ 43,600
Estimated variable manufacturing overhead cost per MH	\$ 1.80	\$ 2.80	

During the most recent month, the company started and completed two jobs--Job C and Job J. There were no beginning inventories. Data concerning those two jobs follow:

	Job C	Job J
Direct materials	\$ 11,300	\$ 8,100
Direct labor cost	\$ 18,500	\$ 6,300
Machining machine-hours	4,100	1,900
Customizing machine-hours	1,600	2,400

Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours. The total manufacturing cost assigned to Job C is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$18,500
- B) \$67,192
- C) \$11,300
- D) \$37,392

166) Prather Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

Total direct labor-hours	50,000
Total fixed manufacturing overhead cost	\$ 285,000
Variable manufacturing overhead per direct labor-hour	\$ 3.80

Recently, Job P513 was completed with the following characteristics:

Number of units in the job	10
Total direct labor-hours	20
Direct materials	\$ 710
Direct labor cost	\$ 500

The estimated total manufacturing overhead is closest to:

- A) \$475,000
- B) \$285,000
- C) \$190,000
- D) \$285,004

167) Prather Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

Total direct labor-hours	50,000
Total fixed manufacturing overhead cost	\$ 285,000
Variable manufacturing overhead per direct labor-hour	\$ 3.80

Recently, Job P513 was completed with the following characteristics:

Number of units in the job	10
Total direct labor-hours	20
Direct materials	\$ 710
Direct labor cost	\$ 500

The predetermined overhead rate is closest to:

- A) \$13.30 per direct labor-hour
- B) \$3.80 per direct labor-hour
- C) \$9.50 per direct labor-hour
- D) \$5.70 per direct labor-hour

168) Prather Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

Total direct labor-hours	50,000
Total fixed manufacturing overhead cost	\$ 285,000
Variable manufacturing overhead per direct labor-hour	\$ 3.80

Recently, Job P513 was completed with the following characteristics:

Number of units in the job	10
Total direct labor-hours	20
Direct materials	\$ 710
Direct labor cost	\$ 500

The amount of overhead applied to Job P513 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$76
- B) \$190
- C) \$266
- D) \$114

169) Prather Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

Total direct labor-hours	50,000
Total fixed manufacturing overhead cost	\$ 285,000
Variable manufacturing overhead per direct labor-hour	\$ 3.80

Recently, Job P513 was completed with the following characteristics:

Number of units in the job	10
Total direct labor-hours	20
Direct materials	\$ 710
Direct labor cost	\$ 500

The total job cost for Job P513 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$690
- B) \$900
- C) \$1,400
- D) \$1,210

170) Kubes Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$90,000, variable manufacturing overhead of \$3.50 per direct labor-hour, and 30,000 direct labor-hours. The company has provided the following data concerning Job A477 which was recently completed:

Total direct labor-hours	100
Direct materials	\$ 520
Direct labor cost	\$ 2,800

The amount of overhead applied to Job A477 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$300
- B) \$350
- C) \$650
- D) \$1,000

171) Kubes Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on total fixed manufacturing overhead cost of \$90,000, variable manufacturing overhead of \$3.50 per direct labor-hour, and 30,000 direct labor-hours. The company has provided the following data concerning Job A477 which was recently completed:

Total direct labor-hours	100
Direct materials	\$ 520
Direct labor cost	\$ 2,800

The total job cost for Job A477 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$3,450
- B) \$1,170
- C) \$3,970
- D) \$3,320

172) Deloria Corporation has two production departments, Forming and Assembly. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department's predetermined overhead rate is based on machine-hours and the Assembly Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Forming	Assembly
Machine-hours	19,000	15,000
Direct labor-hours	4,000	8,000
Total fixed manufacturing overhead cost	\$ 129,200	\$ 77,600
Variable manufacturing overhead per machine-hour	\$ 1.60	
Variable manufacturing overhead per direct labor-hour		\$ 3.00

During the current month the company started and finished Job T288. The following data were recorded for this job:

Job T288:	Forming	Assembly
Machine-hours	80	10
Direct labor-hours	30	40
Direct materials	\$ 730	\$ 380
Direct labor cost	\$ 900	\$ 1,200

The estimated total manufacturing overhead for the Assembly Department is closest to:

- A) \$77,600
- B) \$101,600
- C) \$56,674
- D) \$24,000

173) Deloria Corporation has two production departments, Forming and Assembly. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department's predetermined overhead rate is based on machine-hours and the Assembly Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Forming	Assembly
Machine-hours	19,000	15,000
Direct labor-hours	4,000	8,000

Total fixed manufacturing overhead cost	\$ 129,200	\$ 77,600
Variable manufacturing overhead per machine-hour	\$ 1.60	
Variable manufacturing overhead per direct labor-hour		\$ 3.00

During the current month the company started and finished Job T288. The following data were recorded for this job:

Job T288:	Forming	Assembly
Machine-hours	80	10
Direct labor-hours	30	40
Direct materials	\$ 730	\$ 380
Direct labor cost	\$ 900	\$ 1,200

The predetermined overhead rate for the Assembly Department is closest to:

- A) \$3.00 per direct labor-hour
- B) \$12.70 per direct labor-hour
- C) \$9.70 per direct labor-hour
- D) \$5.35 per direct labor-hour

174) Deloria Corporation has two production departments, Forming and Assembly. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department's predetermined overhead rate is based on machine-hours and the Assembly Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Forming	Assembly
Machine-hours	19,000	15,000
Direct labor-hours	4,000	8,000
Total fixed manufacturing overhead cost	\$ 129,200	\$ 77,600
Variable manufacturing overhead per machine-hour	\$ 1.60	
Variable manufacturing overhead per direct labor-hour		\$ 3.00

During the current month the company started and finished Job T288. The following data were recorded for this job:

Job T288:	Forming	Assembly
Machine-hours	80	10
Direct labor-hours	30	40

Direct materials	\$ 730	\$ 380
Direct labor cost	\$ 900	\$ 1,200

The amount of overhead applied in the Assembly Department to Job T288 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$508.00
- B) \$101,600.00
- C) \$388.00
- D) \$120.00

175) Deloria Corporation has two production departments, Forming and Assembly. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department's predetermined overhead rate is based on machine-hours and the Assembly Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Forming	Assembly
Machine-hours	19,000	15,000
Direct labor-hours	4,000	8,000
Total fixed manufacturing overhead cost	\$ 129,200	\$ 77,600
Variable manufacturing overhead per machine-hour	\$ 1.60	
Variable manufacturing overhead per direct labor-hour		\$ 3.00

During the current month the company started and finished Job T288. The following data were recorded for this job:

Job T288:	Forming	Assembly
Machine-hours	80	10
Direct labor-hours	30	40
Direct materials	\$ 730	\$ 380
Direct labor cost	\$ 900	\$ 1,200

The total amount of overhead applied in both departments to Job T288 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$508
- B) \$672
- C) \$1,688
- D) \$1,180

176) Deloria Corporation has two production departments, Forming and Assembly. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department's predetermined overhead rate is based on machine-hours and the Assembly Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Forming	Assembly
Machine-hours	19,000	15,000
Direct labor-hours	4,000	8,000
Total fixed manufacturing overhead cost	\$ 129,200	\$ 77,600
Variable manufacturing overhead per machine-hour	\$ 1.60	
Variable manufacturing overhead per direct labor-hour		\$ 3.00

During the current month the company started and finished Job T288. The following data were recorded for this job:

Job T288:	Forming	Assembly
Machine-hours	80	10
Direct labor-hours	30	40
Direct materials	\$ 730	\$ 380
Direct labor cost	\$ 900	\$ 1,200

The total job cost for Job T288 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$672
- B) \$2,088
- C) \$2,302
- D) \$4,390

177) Deloria Corporation has two production departments, Forming and Assembly. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department's predetermined overhead rate is based on machine-hours and the Assembly Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Forming	Assembly
Machine-hours	19,000	15,000
Direct labor-hours	4,000	8,000
Total fixed manufacturing overhead cost	\$ 129,200	\$ 77,600
Variable manufacturing overhead per machine-hour	\$ 1.60	
Variable manufacturing overhead per direct labor-hour		\$ 3.00

During the current month the company started and finished Job T288. The following data were recorded for this job:

Job T288:	Forming	Assembly
Machine-hours	80	10
Direct labor-hours	30	40
Direct materials	\$ 730	\$ 380
Direct labor cost	\$ 900	\$ 1,200

If the company marks up its manufacturing costs by 20% then the selling price for Job T288 would be closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$4,390.00
- B) \$878.00
- C) \$5,268.00
- D) \$5,795.00

178) Macnamara Corporation has two manufacturing departments--Casting and Finishing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Casting	Finishing	Total
Estimated total machine-hours (MHs)	1,000	4,000	5,000
Estimated total fixed manufacturing overhead cost	\$ 4,800	\$ 8,800	\$ 13,600
Estimated variable manufacturing overhead cost per MH	\$ 1.80	\$ 2.90	

During the most recent month, the company started and completed two jobs--Job F and Job M. There were no beginning inventories. Data concerning those two jobs follow:

	Job F	Job M
Direct materials	\$ 11,500	\$ 9,000
Direct labor cost	\$ 18,400	\$ 7,400
Casting machine-hours	700	300
Finishing machine-hours	1,600	2,400

Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both production departments. The manufacturing overhead applied to Job F is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$4,620
- B) \$12,780
- C) \$12,420
- D) \$8,160

179) Macnamara Corporation has two manufacturing departments--Casting and Finishing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Casting	Finishing	Total
Estimated total machine-hours (MHs)	1,000	4,000	5,000
Estimated total fixed manufacturing overhead cost	\$ 4,800	\$ 8,800	\$ 13,600
Estimated variable manufacturing overhead cost per MH	\$ 1.80	\$ 2.90	

During the most recent month, the company started and completed two jobs--Job F and Job M. There were no beginning inventories. Data concerning those two jobs follow:

	Job F	Job M
Direct materials	\$ 11,500	\$ 9,000
Direct labor cost	\$ 18,400	\$ 7,400
Casting machine-hours	700	300
Finishing machine-hours	1,600	2,400

Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both production departments. Further assume that the company uses a markup of 50% on manufacturing cost to establish selling prices. The calculated selling price for Job M is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$15,310
- B) \$47,767
- C) \$30,620
- D) \$45,930

180) Hickingbottom Corporation has two production departments, Forming and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department's predetermined overhead rate is based on machine-hours and the Finishing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Forming	Finishing
Machine-hours	17,000	15,000
Direct labor-hours	1,000	7,000
Total fixed manufacturing overhead cost	\$ 96,900	\$ 65,800
Variable manufacturing overhead per machine-hour	\$ 2.00	
Variable manufacturing overhead per direct labor-hour		\$ 3.60

During the current month the company started and finished Job M381. The following data were recorded for this job:

Job M381:	Forming	Finishing
Machine-hours	80	30
Direct labor-hours	30	40
Direct materials	\$ 840	\$ 350
Direct labor cost	\$ 750	\$ 1,000

The predetermined overhead rate for the Forming Department is closest to:

- A) \$5.70 per machine-hour
- B) \$7.70 per machine-hour
- C) \$2.00 per machine-hour
- D) \$18.70 per machine-hour

181) Hickingbottom Corporation has two production departments, Forming and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department's predetermined overhead rate is based on machine-hours and the Finishing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Forming	Finishing
Machine-hours	17,000	15,000
Direct labor-hours	1,000	7,000
Total fixed manufacturing overhead cost	\$ 96,900	\$ 65,800
Variable manufacturing overhead per machine-hour	\$ 2.00	
Variable manufacturing overhead per direct labor-hour		\$ 3.60

During the current month the company started and finished Job M381. The following data were recorded for this job:

Job M381:	Forming	Finishing
Machine-hours	80	30
Direct labor-hours	30	40
Direct materials	\$ 840	\$ 350
Direct labor cost	\$ 750	\$ 1,000

The predetermined overhead rate for the Finishing Department is closest to:

- A) \$9.40 per direct labor-hour
- B) \$13.00 per direct labor-hour
- C) \$3.60 per direct labor-hour
- D) \$5.35 per direct labor-hour

182) Hickingbottom Corporation has two production departments, Forming and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department's predetermined overhead rate is based on machine-hours and the Finishing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Forming	Finishing
Machine-hours	17,000	15,000
Direct labor-hours	1,000	7,000

Total fixed manufacturing overhead cost	\$ 96,900	\$ 65,800
Variable manufacturing overhead per machine-hour	\$ 2.00	
Variable manufacturing overhead per direct labor-hour		\$ 3.60

During the current month the company started and finished Job M381. The following data were recorded for this job:

Job M381:	Forming	Finishing
Machine-hours	80	30
Direct labor-hours	30	40
Direct materials	\$ 840	\$ 350
Direct labor cost	\$ 750	\$ 1,000

The total job cost for Job M381 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$2,206
- B) \$616
- C) \$4,076
- D) \$1,870

183) Kalp Corporation has two production departments, Machining and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Machining Department's predetermined overhead rate is based on machine-hours and the Finishing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Machining	Finishing
Machine-hours	19,000	12,000
Direct labor-hours	2,000	8,000
Total fixed manufacturing overhead cost	\$ 136,800	\$ 69,600
Variable manufacturing overhead per machine-hour	\$ 1.80	
Variable manufacturing overhead per direct labor-hour		\$ 3.20

During the current month the company started and finished Job K928. The following data were recorded for this job:

Job K928:	Machining	Finishing
Machine-hours	90	10

Direct labor-hours	30	50
Direct materials	\$ 775	\$ 415
Direct labor cost	\$ 630	\$ 1,050

The estimated total manufacturing overhead for the Machining Department is closest to:

- A) \$136,800
- B) \$34,200
- C) \$171,000
- D) \$359,100

184) Kalp Corporation has two production departments, Machining and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Machining Department's predetermined overhead rate is based on machine-hours and the Finishing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Machining	Finishing
Machine-hours	19,000	12,000
Direct labor-hours	2,000	8,000
Total fixed manufacturing overhead cost	\$ 136,800	\$ 69,600
Variable manufacturing overhead per machine-hour	\$ 1.80	
Variable manufacturing overhead per direct labor-hour		\$ 3.20

During the current month the company started and finished Job K928. The following data were recorded for this job:

Job K928:	Machining	Finishing
Machine-hours	90	10
Direct labor-hours	30	50
Direct materials	\$ 775	\$ 415
Direct labor cost	\$ 630	\$ 1,050

The predetermined overhead rate for the Machining Department is closest to:

- A) \$7.20 per machine-hour
- B) \$9.00 per machine-hour
- C) \$21.38 per machine-hour
- D) \$1.80 per machine-hour

185) Kalp Corporation has two production departments, Machining and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Machining Department's predetermined overhead rate is based on machine-hours and the Finishing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Machining	Finishing
Machine-hours	19,000	12,000
Direct labor-hours	2,000	8,000
Total fixed manufacturing overhead cost	\$ 136,800	\$ 69,600
Variable manufacturing overhead per machine-hour	\$ 1.80	
Variable manufacturing overhead per direct labor-hour		\$ 3.20

During the current month the company started and finished Job K928. The following data were recorded for this job:

Job K928:	Machining	Finishing
Machine-hours	90	10
Direct labor-hours	30	50
Direct materials	\$ 775	\$ 415
Direct labor cost	\$ 630	\$ 1,050

The amount of overhead applied in the Machining Department to Job K928 is closest to:

- A) \$783.00
- B) \$810.00
- C) \$162.00
- D) \$171,000.00

186) Kalp Corporation has two production departments, Machining and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Machining Department's predetermined overhead rate is based on machine-hours and the Finishing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Machining	Finishing
Machine-hours	19,000	12,000

Direct labor-hours	2,000	8,000
Total fixed manufacturing overhead cost	\$ 136,800	\$ 69,600
Variable manufacturing overhead per machine-hour	\$ 1.80	
Variable manufacturing overhead per direct labor-hour		\$ 3.20

During the current month the company started and finished Job K928. The following data were recorded for this job:

Job K928:	Machining	Finishing
Machine-hours	90	10
Direct labor-hours	30	50
Direct materials	\$ 775	\$ 415
Direct labor cost	\$ 630	\$ 1,050

The total amount of overhead applied in both departments to Job K928 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$1,405
- B) \$2,000
- C) \$810
- D) \$595

187) Kalp Corporation has two production departments, Machining and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Machining Department's predetermined overhead rate is based on machine-hours and the Finishing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Machining	Finishing
Machine-hours	19,000	12,000
Direct labor-hours	2,000	8,000
Total fixed manufacturing overhead cost	\$ 136,800	\$ 69,600
Variable manufacturing overhead per machine-hour	\$ 1.80	
Variable manufacturing overhead per direct labor-hour		\$ 3.20

During the current month the company started and finished Job K928. The following data were recorded for this job:

Job K928:	Machining	Finishing
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Machine-hours	90	10
Direct labor-hours	30	50
Direct materials	\$ 775	\$ 415
Direct labor cost	\$ 630	\$ 1,050

The total job cost for Job K928 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$810
- B) \$4,275
- C) \$2,060
- D) \$2,215

188) Kalp Corporation has two production departments, Machining and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Machining Department's predetermined overhead rate is based on machine-hours and the Finishing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Machining	Finishing
Machine-hours	19,000	12,000
Direct labor-hours	2,000	8,000
Total fixed manufacturing overhead cost	\$ 136,800	\$ 69,600
Variable manufacturing overhead per machine-hour	\$ 1.80	
Variable manufacturing overhead per direct labor-hour		\$ 3.20

During the current month the company started and finished Job K928. The following data were recorded for this job:

Job K928:	Machining	Finishing
Machine-hours	90	10
Direct labor-hours	30	50
Direct materials	\$ 775	\$ 415
Direct labor cost	\$ 630	\$ 1,050

If the company marks up its manufacturing costs by 20% then the selling price for Job K928 would be closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$4,275.00
- B) \$5,643.00
- C) \$5,130.00
- D) \$855.00

189) Janicki Corporation has two manufacturing departments--Machining and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Machining	Customizing	Total
Estimated total machine-hours (MHs)	1,000	9,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 4,800	\$ 23,400	\$ 28,200
Estimated variable manufacturing overhead cost per MH	\$ 1.10	\$ 2.50	

During the most recent month, the company started and completed two jobs--Job A and Job J. There were no beginning inventories. Data concerning those two jobs follow:

	Job A	Job J
Direct materials	\$ 12,000	\$ 7,700
Direct labor cost	\$ 20,700	\$ 6,400
Machining machine-hours	700	300
Customizing machine-hours	3,600	5,400

Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours and uses a markup of 50% on manufacturing cost to establish selling prices. The calculated selling price for Job A is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$90,707
- B) \$27,487
- C) \$82,461
- D) \$54,974

190) Janicki Corporation has two manufacturing departments--Machining and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Machining	Customizing	Total
Estimated total machine-hours (MHs)	1,000	9,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 4,800	\$ 23,400	\$ 28,200
Estimated variable manufacturing overhead cost per MH	\$ 1.10	\$ 2.50	

During the most recent month, the company started and completed two jobs--Job A and Job J. There were no beginning inventories. Data concerning those two jobs follow:

	Job A	Job J
Direct materials	\$ 12,000	\$ 7,700
Direct labor cost	\$ 20,700	\$ 6,400
Machining machine-hours	700	300
Customizing machine-hours	3,600	5,400

Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours and uses a markup of 50% on manufacturing cost to establish selling prices. The calculated selling price for Job J is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$71,983
- B) \$65,439
- C) \$43,626
- D) \$21,813

191) Janicki Corporation has two manufacturing departments--Machining and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Machining	Customizing	Total
Estimated total machine-hours (MHs)	1,000	9,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 4,800	\$ 23,400	\$ 28,200
Estimated variable manufacturing overhead cost per MH	\$ 1.10	\$ 2.50	

During the most recent month, the company started and completed two jobs--Job A and Job J. There were no beginning inventories. Data concerning those two jobs follow:

	Job A	Job J
Direct materials	\$ 12,000	\$ 7,700

Direct labor cost	\$ 20,700	\$ 6,400
Machining machine-hours	700	300
Customizing machine-hours	3,600	5,400

Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both production departments. Further assume that the company uses a markup of 50% on manufacturing cost to establish selling prices. The calculated selling price for Job A is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$27,595
- B) \$87,752
- C) \$82,785
- D) \$55,190

192) Janicki Corporation has two manufacturing departments--Machining and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Machining	Customizing	Total
Estimated total machine-hours (MHs)	1,000	9,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 4,800	\$ 23,400	\$ 28,200
Estimated variable manufacturing overhead cost per MH	\$ 1.10	\$ 2.50	

During the most recent month, the company started and completed two jobs--Job A and Job J. There were no beginning inventories. Data concerning those two jobs follow:

	Job A	Job J
Direct materials	\$ 12,000	\$ 7,700
Direct labor cost	\$ 20,700	\$ 6,400
Machining machine-hours	700	300
Customizing machine-hours	3,600	5,400

Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both production departments. Further assume that the company uses a markup of 50% on manufacturing cost to establish selling prices. The calculated selling price for Job J is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$65,115
- B) \$67,720
- C) \$21,705
- D) \$43,410

193) Comans Corporation has two production departments, Milling and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Milling Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Milling	Customizing
Machine-hours	18,000	13,000
Direct labor-hours	4,000	7,000
Total fixed manufacturing overhead cost	\$ 113,400	\$ 64,400
Variable manufacturing overhead per machine-hour	\$ 1.60	
Variable manufacturing overhead per direct labor-hour		\$ 3.90

During the current month the company started and finished Job A319. The following data were recorded for this job:

Job A319:	Milling	Customizing
Machine-hours	60	10
Direct labor-hours	20	60
Direct materials	\$ 655	\$ 305
Direct labor cost	\$ 400	\$ 1,200

The amount of overhead applied in the Milling Department to Job A319 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$142,200.00
- B) \$552.00
- C) \$96.00
- D) \$474.00

194) Comans Corporation has two production departments, Milling and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Milling Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Milling	Customizing
Machine-hours	18,000	13,000
Direct labor-hours	4,000	7,000
Total fixed manufacturing overhead cost	\$ 113,400	\$ 64,400
Variable manufacturing overhead per machine-hour	\$ 1.60	
Variable manufacturing overhead per direct labor-hour		\$ 3.90

During the current month the company started and finished Job A319. The following data were recorded for this job:

Job A319:	Milling	Customizing
Machine-hours	60	10
Direct labor-hours	20	60
Direct materials	\$ 655	\$ 305
Direct labor cost	\$ 400	\$ 1,200

The amount of overhead applied in the Customizing Department to Job A319 is closest to:
(Round your intermediate calculations to 2 decimal places.)

- A) \$234.00
- B) \$786.00
- C) \$552.00
- D) \$91,700.00

195) Comans Corporation has two production departments, Milling and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Milling Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Milling	Customizing
Machine-hours	26,000	10,000

Direct labor-hours	11,000	8,000
Total fixed manufacturing overhead cost	\$ 91,000	\$ 44,000
Variable manufacturing overhead per machine-hour	\$ 2.00	
Variable manufacturing overhead per direct labor-hour		\$ 4.40

During the current month the company started and finished Job A319. The following data were recorded for this job:

Job A319:	Milling	Customizing
Machine-hours	40	30
Direct labor-hours	30	40
Direct materials	\$ 400	\$ 200
Direct labor cost	\$ 570	\$ 600

If the company marks up its manufacturing costs by 20% then the selling price for Job A319 would be closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$3,436
- B) \$2,863
- C) \$2,386
- D) \$477

196) Comans Corporation has two production departments, Milling and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Milling Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Milling	Customizing
Machine-hours	18,000	13,000
Direct labor-hours	4,000	7,000
Total fixed manufacturing overhead cost	\$ 113,400	\$ 64,400
Variable manufacturing overhead per machine-hour	\$ 1.60	
Variable manufacturing overhead per direct labor-hour		\$ 3.90

During the current month the company started and finished Job A319. The following data were recorded for this job:

Job A319:	Milling	Customizing
Machine-hours	60	10
Direct labor-hours	20	60
Direct materials	\$ 655	\$ 305
Direct labor cost	\$ 400	\$ 1,200

If the company marks up its manufacturing costs by 20% then the selling price for Job A319 would be closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$5,042.00
- B) \$4,584.00
- C) \$3,820.00
- D) \$764.00

197) Sanderlin Corporation has two manufacturing departments--Machining and Finishing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Machining	Finishing	Total
Estimated total machine-hours (MHs)	5,000	5,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 26,500	\$ 13,500	\$ 40,000
Estimated variable manufacturing overhead cost per MH	\$ 2.00	\$ 3.00	

During the most recent month, the company started and completed two jobs--Job C and Job L. There were no beginning inventories. Data concerning those two jobs follow:

	Job C	Job L
Direct materials	\$ 12,500	\$ 8,200
Direct labor cost	\$ 20,200	\$ 6,400
Machining machine-hours	3,400	1,600
Finishing machine-hours	2,000	3,000

Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both production departments. The manufacturing overhead applied to Job L is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$29,900
- B) \$11,680
- C) \$28,780
- D) \$17,100

198) Sanderlin Corporation has two manufacturing departments--Machining and Finishing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Machining	Finishing	Total
Estimated total machine-hours (MHs)	5,000	5,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 26,500	\$ 13,500	\$ 40,000
Estimated variable manufacturing overhead cost per MH	\$ 2.00	\$ 3.00	

During the most recent month, the company started and completed two jobs--Job C and Job L. There were no beginning inventories. Data concerning those two jobs follow:

	Job C	Job L
Direct materials	\$ 12,500	\$ 8,200
Direct labor cost	\$ 20,200	\$ 6,400
Machining machine-hours	3,400	1,600
Finishing machine-hours	2,000	3,000

Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both production departments. Further assume that the company uses a markup of 20% on manufacturing cost to establish selling prices. The calculated selling price for Job C is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$87,666
- B) \$68,920
- C) \$13,784
- D) \$82,704

199) Collini Corporation has two production departments, Machining and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Machining Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Machining	Customizing
Machine-hours	17,000	15,000
Direct labor-hours	3,000	6,000
Total fixed manufacturing overhead cost	\$ 102,000	\$ 61,200

Variable manufacturing overhead per machine-hour \$ 1.70

Variable manufacturing overhead per direct labor-hour \$ 4.10

During the current month the company started and finished Job T268. The following data were recorded for this job:

Job T268:	Machining	Customizing
Machine-hours	80	30
Direct labor-hours	30	50
Direct materials	\$ 720	\$ 380
Direct labor cost	\$ 900	\$ 1,500

The total amount of overhead applied in both departments to Job T268 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$616
- B) \$715
- C) \$2,046
- D) \$1,331

200) Collini Corporation has two production departments, Machining and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Machining Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Machining	Customizing
Machine-hours	17,000	15,000
Direct labor-hours	3,000	6,000
Total fixed manufacturing overhead cost	\$ 102,000	\$ 61,200
Variable manufacturing overhead per machine-hour	\$ 1.70	
Variable manufacturing overhead per direct labor-hour		\$ 4.10

During the current month the company started and finished Job T268. The following data were recorded for this job:

Job T268:	Machining	Customizing
Machine-hours	80	30
Direct labor-hours	30	50

Direct materials	\$ 720	\$ 380
Direct labor cost	\$ 900	\$ 1,500

The total job cost for Job T268 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$2,595
- B) \$616
- C) \$4,831
- D) \$2,236

201) Collini Corporation has two production departments, Machining and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Machining Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Machining	Customizing
Machine-hours	17,000	15,000
Direct labor-hours	3,000	6,000
Total fixed manufacturing overhead cost	\$ 102,000	\$ 61,200
Variable manufacturing overhead per machine-hour	\$ 1.70	
Variable manufacturing overhead per direct labor-hour		\$ 4.10

During the current month the company started and finished Job T268. The following data were recorded for this job:

Job T268:	Machining	Customizing
Machine-hours	80	30
Direct labor-hours	30	50
Direct materials	\$ 720	\$ 380
Direct labor cost	\$ 900	\$ 1,500

If the company marks up its manufacturing costs by 40% then the selling price for Job T268 would be closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$1,932.40
- B) \$6,763.40
- C) \$4,831.00
- D) \$7,440.00

202) Heroux Corporation has two manufacturing departments--Forming and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Forming	Customizing	Total
Estimated total machine-hours (MHs)	3,000	7,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 16,500	\$ 20,300	\$ 36,800
Estimated variable manufacturing overhead cost per MH	\$ 1.70	\$ 2.50	

During the most recent month, the company started and completed two jobs--Job A and Job H. There were no beginning inventories. Data concerning those two jobs follow:

	Job A	Job H
Direct materials	\$ 12,800	\$ 6,700
Direct labor cost	\$ 24,300	\$ 7,800
Forming machine-hours	2,000	1,000
Customizing machine-hours	2,800	4,200

Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours. The amount of manufacturing overhead applied to Job A is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$28,512
- B) \$16,632
- C) \$11,880
- D) \$17,664

203) Heroux Corporation has two manufacturing departments--Forming and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Forming	Customizing	Total
Estimated total machine-hours (MHs)	3,000	7,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 16,500	\$ 20,300	\$ 36,800
Estimated variable manufacturing overhead cost per MH	\$ 1.70	\$ 2.50	

During the most recent month, the company started and completed two jobs--Job A and Job H. There were no beginning inventories. Data concerning those two jobs follow:

	Job A	Job H
Direct materials	\$ 12,800	\$ 6,700
Direct labor cost	\$ 24,300	\$ 7,800
Forming machine-hours	2,000	1,000
Customizing machine-hours	2,800	4,200

Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours. The amount of manufacturing overhead applied to Job H is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$19,136
- B) \$5,940
- C) \$30,888
- D) \$24,948

204) Heroux Corporation has two manufacturing departments--Forming and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Forming	Customizing	Total
Estimated total machine-hours (MHs)	3,000	7,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 16,500	\$ 20,300	\$ 36,800
Estimated variable manufacturing overhead cost per MH	\$ 1.70	\$ 2.50	

During the most recent month, the company started and completed two jobs--Job A and Job H. There were no beginning inventories. Data concerning those two jobs follow:

	Job A	Job H
Direct materials	\$ 12,800	\$ 6,700
Direct labor cost	\$ 24,300	\$ 7,800

Forming machine-hours	2,000	1,000
Customizing machine-hours	2,800	4,200

Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both production departments. The manufacturing overhead applied to Job A is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$14,400
- B) \$15,120
- C) \$28,512
- D) \$29,520

205) Heroux Corporation has two manufacturing departments--Forming and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Forming	Customizing	Total
Estimated total machine-hours (MHs)	3,000	7,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 16,500	\$ 20,300	\$ 36,800
Estimated variable manufacturing overhead cost per MH	\$ 1.70	\$ 2.50	

During the most recent month, the company started and completed two jobs--Job A and Job H. There were no beginning inventories. Data concerning those two jobs follow:

	Job A	Job H
Direct materials	\$ 12,800	\$ 6,700
Direct labor cost	\$ 24,300	\$ 7,800
Forming machine-hours	2,000	1,000
Customizing machine-hours	2,800	4,200

Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both production departments. The manufacturing overhead applied to Job H is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$22,680
- B) \$30,888
- C) \$29,880
- D) \$7,200

206) Tiff Corporation has two production departments, Casting and Assembly. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Casting Department's predetermined overhead rate is based on machine-hours and the Assembly Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Casting	Assembly
Machine-hours	17,000	10,000
Direct labor-hours	1,000	5,000
Total fixed manufacturing overhead cost	\$ 129,200	\$ 46,500
Variable manufacturing overhead per machine-hour	\$ 1.80	
Variable manufacturing overhead per direct labor-hour		\$ 3.80

During the current month the company started and finished Job P131. The following data were recorded for this job:

Job P131:	Casting	Assembly
Machine-hours	90	20
Direct labor-hours	20	60

The predetermined overhead rate for the Casting Department is closest to:

- A) \$9.40 per machine-hour
- B) \$7.60 per machine-hour
- C) \$1.80 per machine-hour
- D) \$31.96 per machine-hour

207) Tiff Corporation has two production departments, Casting and Assembly. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Casting Department's predetermined overhead rate is based on machine-hours and the Assembly Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Casting	Assembly
Machine-hours	17,000	10,000
Direct labor-hours	1,000	5,000
Total fixed manufacturing overhead cost	\$ 129,200	\$ 46,500
Variable manufacturing overhead per machine-hour	\$ 1.80	

Variable manufacturing overhead per direct labor-hour \$ 3.80

During the current month the company started and finished Job P131. The following data were recorded for this job:

Job P131:	Casting	Assembly
Machine-hours	90	20
Direct labor-hours	20	60

The amount of overhead applied in the Assembly Department to Job P131 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$228.00
- B) \$558.00
- C) \$65,500.00
- D) \$786.00

208) Eisentrout Corporation has two production departments, Machining and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Machining Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Machining	Customizing
Machine-hours	28,000	12,000
Direct labor-hours	4,000	10,000
Total fixed manufacturing overhead cost	\$ 154,000	\$ 39,000
Variable manufacturing overhead per machine-hour	\$ 2.00	
Variable manufacturing overhead per direct labor-hour		\$ 3.30

During the current month the company started and finished Job T272. The following data were recorded for this job:

Job T272:	Machining	Customizing
Machine-hours	60	30
Direct labor-hours	60	20

The estimated total manufacturing overhead for the Machining Department is closest to:

- A) \$210,000
- B) \$154,000
- C) \$56,000
- D) \$178,000

209) Eisentrout Corporation has two production departments, Machining and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Machining Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Machining	Customizing
Machine-hours	16,000	11,000
Direct labor-hours	2,000	6,000
Total fixed manufacturing overhead cost	\$ 104,000	\$ 56,400
Variable manufacturing overhead per machine-hour	\$ 2.10	
Variable manufacturing overhead per direct labor-hour		\$ 3.30

During the current month the company started and finished Job T272. The following data were recorded for this job:

Job T272:	Machining	Customizing
Machine-hours	60	30
Direct labor-hours	10	60

The estimated total manufacturing overhead for the Machining Department is closest to:

- A) \$137,600
- B) \$104,000
- C) \$33,600
- D) \$310,933

210) Eisentrout Corporation has two production departments, Machining and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Machining Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Machining	Customizing
Machine-hours	16,000	11,000
Direct labor-hours	2,000	6,000
Total fixed manufacturing overhead cost	\$ 104,000	\$ 56,400
Variable manufacturing overhead per machine-hour	\$ 2.10	
Variable manufacturing overhead per direct labor-hour		\$ 3.30

During the current month the company started and finished Job T272. The following data were recorded for this job:

Job T272:	Machining	Customizing
Machine-hours	60	30
Direct labor-hours	10	60

The estimated total manufacturing overhead for the Customizing Department is closest to:

- A) \$40,950
- B) \$19,800
- C) \$56,400
- D) \$76,200

211) Eisentrout Corporation has two production departments, Machining and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Machining Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Machining	Customizing
Machine-hours	16,000	11,000
Direct labor-hours	2,000	6,000
Total fixed manufacturing overhead cost	\$ 104,000	\$ 56,400

Variable manufacturing overhead per machine-hour	\$ 2.10	
Variable manufacturing overhead per direct labor-hour		\$ 3.30

During the current month the company started and finished Job T272. The following data were recorded for this job:

Job T272:	Machining	Customizing
Machine-hours	60	30
Direct labor-hours	10	60

The predetermined overhead rate for the Machining Department is closest to:

- A) \$22.93 per machine-hour
- B) \$6.50 per machine-hour
- C) \$2.10 per machine-hour
- D) \$8.60 per machine-hour

212) Eisentrout Corporation has two production departments, Machining and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Machining Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Machining	Customizing
Machine-hours	16,000	11,000
Direct labor-hours	2,000	6,000
Total fixed manufacturing overhead cost	\$ 104,000	\$ 56,400
Variable manufacturing overhead per machine-hour	\$ 2.10	
Variable manufacturing overhead per direct labor-hour		\$ 3.30

During the current month the company started and finished Job T272. The following data were recorded for this job:

Job T272:	Machining	Customizing
Machine-hours	60	30
Direct labor-hours	10	60

The predetermined overhead rate for the Customizing Department is closest to:

- A) \$3.30 per direct labor-hour
- B) \$12.70 per direct labor-hour
- C) \$9.40 per direct labor-hour
- D) \$4.76 per direct labor-hour

213) Eisentrout Corporation has two production departments, Machining and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Machining Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Machining	Customizing
Machine-hours	16,000	11,000
Direct labor-hours	2,000	6,000
Total fixed manufacturing overhead cost	\$ 104,000	\$ 56,400
Variable manufacturing overhead per machine-hour	\$ 2.10	
Variable manufacturing overhead per direct labor-hour		\$ 3.30

During the current month the company started and finished Job T272. The following data were recorded for this job:

Job T272:	Machining	Customizing
Machine-hours	60	30
Direct labor-hours	10	60

The amount of overhead applied in the Machining Department to Job T272 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$137,600.00
- B) \$126.00
- C) \$516.00
- D) \$564.00

214) Eisentrout Corporation has two production departments, Machining and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Machining Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Machining	Customizing
Machine-hours	16,000	11,000
Direct labor-hours	2,000	6,000
Total fixed manufacturing overhead cost	\$ 104,000	\$ 56,400
Variable manufacturing overhead per machine-hour	\$ 2.10	
Variable manufacturing overhead per direct labor-hour		\$ 3.30

During the current month the company started and finished Job T272. The following data were recorded for this job:

Job T272:	Machining	Customizing
Machine-hours	60	30
Direct labor-hours	10	60

The amount of overhead applied in the Customizing Department to Job T272 is closest to:
(Round your intermediate calculations to 2 decimal places.)

- A) \$76,200.00
- B) \$762.00
- C) \$564.00
- D) \$198.00

215) Stoke Corporation has two production departments, Forming and Assembly. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department's predetermined overhead rate is based on machine-hours and the Assembly Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Forming	Assembly
Machine-hours	20,000	15,000
Direct labor-hours	2,000	7,000

Total fixed manufacturing overhead cost	\$	\$ 58,100
		138,000
Variable manufacturing overhead per machine-hour	\$	2.30
Variable manufacturing overhead per direct labor-hour		\$ 3.00

During the current month the company started and finished Job A460. The following data were recorded for this job:

Job A460:	Forming	Assembly
Machine-hours	80	10
Direct labor-hours	30	50

The amount of overhead applied in the Forming Department to Job A460 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$184,000.00
- B) \$184.00
- C) \$736.00
- D) \$664.00

216) Stoke Corporation has two production departments, Forming and Assembly. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department's predetermined overhead rate is based on machine-hours and the Assembly Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Forming	Assembly
Machine-hours	20,000	15,000
Direct labor-hours	2,000	7,000
Total fixed manufacturing overhead cost	\$	\$ 58,100
		138,000
Variable manufacturing overhead per machine-hour	\$	2.30
Variable manufacturing overhead per direct labor-hour		\$ 3.00

During the current month the company started and finished Job A460. The following data were recorded for this job:

Job A460:	Forming	Assembly
Machine-hours	80	10
Direct labor-hours	30	50

The amount of overhead applied in the Assembly Department to Job A460 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$415.00
- B) \$150.00
- C) \$565.00
- D) \$79,100.00

217) Vanliere Corporation has two production departments, Machining and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Machining Department's predetermined overhead rate is based on machine-hours and the Finishing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Machining	Finishing
Machine-hours	19,000	11,000
Direct labor-hours	3,000	6,000
Total fixed manufacturing overhead cost	\$ 138,700	\$ 52,800
Variable manufacturing overhead per machine-hour	\$ 1.90	
Variable manufacturing overhead per direct labor-hour		\$ 3.80

During the current month the company started and finished Job A803. The following data were recorded for this job:

Job A803:	Machining	Finishing
Machine-hours	90	20
Direct labor-hours	20	60

The predetermined overhead rate for the Finishing Department is closest to:

- A) \$8.80 per direct labor-hour
- B) \$3.98 per direct labor-hour
- C) \$12.60 per direct labor-hour
- D) \$3.80 per direct labor-hour

218) Vanliere Corporation has two production departments, Machining and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Machining Department's predetermined overhead rate is based on machine-hours and the Finishing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Machining	Finishing
Machine-hours	19,000	11,000
Direct labor-hours	3,000	6,000
Total fixed manufacturing overhead cost	\$ 138,700	\$ 52,800
Variable manufacturing overhead per machine-hour	\$ 1.90	
Variable manufacturing overhead per direct labor-hour		\$ 3.80

During the current month the company started and finished Job A803. The following data were recorded for this job:

Job A803:	Machining	Finishing
Machine-hours	90	20
Direct labor-hours	20	60

The amount of overhead applied in the Machining Department to Job A803 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$828.00
- B) \$792.00
- C) \$171.00
- D) \$174,800.00

219) Ahlheim Corporation has two production departments, Forming and Assembly. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department's predetermined overhead rate is based on machine-hours and the Assembly Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Forming	Assembly
Machine-hours	16,000	15,000
Direct labor-hours	2,000	6,000
Total fixed manufacturing overhead cost	\$	\$ 55,200

	102,400	
Variable manufacturing overhead per machine-hour	\$ 2.30	

Variable manufacturing overhead per direct labor-hour		\$ 4.50
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During the current month the company started and finished Job T924. The following data were recorded for this job:

Job T924:	Forming	Assembly
Machine-hours	70	20
Direct labor-hours	30	40
Direct materials	\$870	\$385
Direct labor cost	\$630	\$840

The estimated total manufacturing overhead for the Forming Department is closest to:

- A) \$36,800
- B) \$102,400
- C) \$309,867
- D) \$139,200

220) Ahlheim Corporation has two production departments, Forming and Assembly. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department's predetermined overhead rate is based on machine-hours and the Assembly Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Forming	Assembly
Machine-hours	16,000	15,000
Direct labor-hours	2,000	6,000
Total fixed manufacturing overhead cost	\$	\$ 55,200
	102,400	
Variable manufacturing overhead per machine-hour	\$ 2.30	
Variable manufacturing overhead per direct labor-hour		\$ 4.50

During the current month the company started and finished Job T924. The following data were recorded for this job:

Job T924:	Forming	Assembly
Machine-hours	70	20
Direct labor-hours	30	40

Direct materials	\$870	\$385
Direct labor cost	\$630	\$840

The estimated total manufacturing overhead for the Assembly Department is closest to:

- A) \$27,000
- B) \$55,200
- C) \$82,200
- D) \$47,700

221) Ahlheim Corporation has two production departments, Forming and Assembly. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department's predetermined overhead rate is based on machine-hours and the Assembly Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Forming	Assembly
Machine-hours	16,000	15,000
Direct labor-hours	2,000	6,000
Total fixed manufacturing overhead cost	\$ 102,400	\$ 55,200
Variable manufacturing overhead per machine-hour	\$ 2.30	
Variable manufacturing overhead per direct labor-hour		\$ 4.50

During the current month the company started and finished Job T924. The following data were recorded for this job:

Job T924:	Forming	Assembly
Machine-hours	70	20
Direct labor-hours	30	40
Direct materials	\$ 870	\$ 385
Direct labor cost	\$ 630	\$ 840

The total amount of overhead applied in both departments to Job T924 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$1,157
- B) \$548
- C) \$609
- D) \$1,705

222) Merati Corporation has two manufacturing departments--Forming and Assembly. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Forming	Assembly	Total
Estimated total machine-hours (MHs)	5,000	5,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 28,000	\$ 10,500	\$ 38,500
Estimated variable manufacturing overhead cost per MH	\$ 1.80	\$ 2.60	

During the most recent month, the company started and completed two jobs--Job B and Job L. There were no beginning inventories. Data concerning those two jobs follow:

	Job B	Job L
Forming machine-hours	3,400	1,600
Assembly machine-hours	2,000	3,000

Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both departments. The departmental predetermined overhead rate in the Forming Department is closest to:

- A) \$5.60
- B) \$7.40
- C) \$1.80
- D) \$6.05

223) Merati Corporation has two manufacturing departments--Forming and Assembly. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Forming	Assembly	Total
Estimated total machine-hours (MHs)	5,000	5,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 28,000	\$ 10,500	\$ 38,500
Estimated variable manufacturing overhead cost per MH	\$ 1.80	\$ 2.60	

During the most recent month, the company started and completed two jobs--Job B and Job L. There were no beginning inventories. Data concerning those two jobs follow:

Job B	Job L
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Forming machine-hours	3,400	1,600
Assembly machine-hours	2,000	3,000

Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both departments. The departmental predetermined overhead rate in the Assembly Department is closest to:

- A) \$2.60
- B) \$4.70
- C) \$6.05
- D) \$2.10

224) Merati Corporation has two manufacturing departments--Forming and Assembly. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Forming	Assembly	Total
Estimated total machine-hours (MHs)	5,000	5,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 28,000	\$ 10,500	\$ 38,500
Estimated variable manufacturing overhead cost per MH	\$ 1.80	\$ 2.60	

During the most recent month, the company started and completed two jobs--Job B and Job L. There were no beginning inventories. Data concerning those two jobs follow:

	Job B	Job L
Forming machine-hours	3,400	1,600
Assembly machine-hours	2,000	3,000

Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both production departments. The manufacturing overhead applied to Job B is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$9,400
- B) \$25,160
- C) \$32,670
- D) \$34,560

225) Merati Corporation has two manufacturing departments--Forming and Assembly. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Forming	Assembly	Total
Estimated total machine-hours (MHs)	5,000	5,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 28,000	\$ 10,500	\$ 38,500
Estimated variable manufacturing overhead cost per MH	\$ 1.80	\$ 2.60	

During the most recent month, the company started and completed two jobs--Job B and Job L. There were no beginning inventories. Data concerning those two jobs follow:

	Job B	Job L
Forming machine-hours	3,400	1,600
Assembly machine-hours	2,000	3,000

Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both production departments. The manufacturing overhead applied to Job L is closest to: (Round your intermediate calculations to 2 decimal places.)

- A) \$27,830
- B) \$11,840
- C) \$25,940
- D) \$14,100

226) Barbeau Corporation has two production departments, Milling and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Milling Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Milling	Customizing
Machine-hours	17,000	13,000
Direct labor-hours	2,000	5,000
Total fixed manufacturing overhead cost	\$ 119,000	\$ 42,000
Variable manufacturing overhead per machine-hour	\$ 1.60	
Variable manufacturing overhead per direct labor-hour		\$ 4.30

During the current month the company started and finished Job A492. The following data were recorded for this job:

Job A492:	Milling	Customizing
Machine-hours	90	20
Direct labor-hours	20	50

The estimated total manufacturing overhead for the Customizing Department is closest to:

- A) \$63,500
- B) \$21,500
- C) \$42,000
- D) \$33,853

227) Barbeau Corporation has two production departments, Milling and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Milling Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Milling	Customizing
Machine-hours	17,000	13,000
Direct labor-hours	2,000	5,000
Total fixed manufacturing overhead cost	\$ 119,000	\$ 42,000
Variable manufacturing overhead per machine-hour	\$ 1.60	
Variable manufacturing overhead per direct labor-hour		\$ 4.30

During the current month the company started and finished Job A492. The following data were recorded for this job:

Job A492:	Milling	Customizing
Machine-hours	90	20
Direct labor-hours	20	50

The amount of overhead applied in the Milling Department to Job A492 is closest to: **(Round your intermediate calculations to 2 decimal places.)**

- A) \$146,200.00
- B) \$144.00
- C) \$756.00
- D) \$774.00

228) Kroeker Corporation has two production departments, Milling and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Milling Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Milling	Customizing
Machine-hours	17,000	12,000
Direct labor-hours	1,000	9,000
Total fixed manufacturing overhead cost	\$ 112,200	\$ 81,000
Variable manufacturing overhead per machine-hour	\$ 1.70	
Variable manufacturing overhead per direct labor-hour		\$ 4.30

During the current month the company started and finished Job T898. The following data were recorded for this job:

Job T898:	Milling	Customizing
Machine-hours	80	30
Direct labor-hours	20	50

The estimated total manufacturing overhead for the Milling Department is closest to:

- A) \$240,833
- B) \$141,100
- C) \$28,900
- D) \$112,200

229) Kroeker Corporation has two production departments, Milling and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Milling Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Milling	Customizing
Machine-hours	17,000	12,000
Direct labor-hours	1,000	9,000
Total fixed manufacturing overhead cost	\$ 112,200	\$ 81,000
Variable manufacturing overhead per machine-hour	\$ 1.70	
Variable manufacturing overhead per direct labor-hour		\$ 4.30

During the current month the company started and finished Job T898. The following data were recorded for this job:

Job T898:	Milling	Customizing
Machine-hours	80	30
Direct labor-hours	20	50

The amount of overhead applied in the Customizing Department to Job T898 is closest to:
(Round your intermediate calculations to 2 decimal places.)

- A) \$450.00
- B) \$119,700.00
- C) \$665.00
- D) \$215.00

230) Petty Corporation has two production departments, Milling and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Milling Department's predetermined overhead rate is based on machine-hours and the Finishing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Milling	Finishing
Machine-hours	20,000	14,000
Direct labor-hours	2,000	8,000
Total fixed manufacturing overhead cost	\$ 148,000	\$ 88,000
Variable manufacturing overhead per machine-	\$ 1.90	

hour

Variable manufacturing overhead per direct labor-hour \$ 3.60

The estimated total manufacturing overhead for the Milling Department is closest to:

- A) \$408,000
- B) \$38,000
- C) \$148,000
- D) \$186,000

231) Petty Corporation has two production departments, Milling and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Milling Department's predetermined overhead rate is based on machine-hours and the Finishing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Milling	Finishing
Machine-hours	20,000	14,000
Direct labor-hours	2,000	8,000
Total fixed manufacturing overhead cost	\$ 148,000	\$ 88,000
Variable manufacturing overhead per machine-hour	\$ 1.90	
Variable manufacturing overhead per direct labor-hour		\$ 3.60

The predetermined overhead rate for the Finishing Department is closest to:

- A) \$5.84 per direct labor-hour
- B) \$3.60 per direct labor-hour
- C) \$11.00 per direct labor-hour
- D) \$14.60 per direct labor-hour

232) Garza Corporation has two production departments, Casting and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Casting Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Casting	Customizing
Machine-hours	23,000	23,000
Direct labor-hours	16,000	2,000
Total fixed manufacturing overhead cost	\$ 105,800	\$ 8,600
Variable manufacturing overhead per machine-hour	\$ 1.70	
Variable manufacturing overhead per direct labor-hour		\$ 3.10

The estimated total manufacturing overhead for the Customizing Department is closest to:

- A) \$155,400
- B) \$6,200
- C) \$14,800
- D) \$8,600

233) Garza Corporation has two production departments, Casting and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Casting Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Casting	Customizing
Machine-hours	20,000	13,000
Direct labor-hours	1,000	7,000
Total fixed manufacturing overhead cost	\$ 152,000	\$ 68,600
Variable manufacturing overhead per machine-hour	\$ 2.10	
Variable manufacturing overhead per direct labor-hour		\$ 4.30

The estimated total manufacturing overhead for the Customizing Department is closest to:

- A) \$54,110
- B) \$30,100
- C) \$98,700
- D) \$68,600

234) Garza Corporation has two production departments, Casting and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Casting Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Casting	Customizing
Machine-hours	20,000	13,000
Direct labor-hours	1,000	7,000
Total fixed manufacturing overhead cost	\$ 152,000	\$ 68,600
Variable manufacturing overhead per machine-hour	\$ 2.10	
Variable manufacturing overhead per direct labor-hour		\$ 4.30

The predetermined overhead rate for the Casting Department is closest to:

- A) \$9.70 per machine-hour
- B) \$7.60 per machine-hour
- C) \$2.10 per machine-hour
- D) \$27.71 per machine-hour

235) Marciante Corporation has two production departments, Casting and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Casting Department's predetermined overhead rate is based on machine-hours and the Finishing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Casting	Finishing
Machine-hours	17,000	10,000
Direct labor-hours	2,000	5,000
Total fixed manufacturing overhead cost	\$ 105,400	\$ 52,000
Variable manufacturing overhead per machine-hour	\$ 1.70	
Variable manufacturing overhead per direct labor-hour		\$ 3.90

The estimated total manufacturing overhead for the Casting Department is closest to:

- A) \$387,260
- B) \$134,300
- C) \$28,900
- D) \$105,400

236) Marciante Corporation has two production departments, Casting and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Casting Department's predetermined overhead rate is based on machine-hours and the Finishing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Casting	Finishing
Machine-hours	17,000	10,000
Direct labor-hours	2,000	5,000
Total fixed manufacturing overhead cost	\$ 105,400	\$ 52,000
Variable manufacturing overhead per machine-hour	\$ 1.70	
Variable manufacturing overhead per direct labor-hour		\$ 3.90

The estimated total manufacturing overhead for the Finishing Department is closest to:

- A) \$71,500
- B) \$52,000
- C) \$34,794
- D) \$19,500

237) Jurica Corporation has two production departments, Forming and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Forming	Customizing
Machine-hours	19,000	15,000
Direct labor-hours	4,000	6,000

Total fixed manufacturing overhead cost	\$ 100,700	\$ 63,000
Variable manufacturing overhead per machine-hour	\$ 2.00	
Variable manufacturing overhead per direct labor-hour		\$ 3.90

The predetermined overhead rate for the Forming Department is closest to:

- A) \$23.12 per machine-hour
- B) \$2.00 per machine-hour
- C) \$5.30 per machine-hour
- D) \$7.30 per machine-hour

238) Jurica Corporation has two production departments, Forming and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Forming	Customizing
Machine-hours	19,000	15,000
Direct labor-hours	4,000	6,000
Total fixed manufacturing overhead cost	\$ 100,700	\$ 63,000
Variable manufacturing overhead per machine-hour	\$ 2.00	
Variable manufacturing overhead per direct labor-hour		\$ 3.90

The predetermined overhead rate for the Customizing Department is closest to:

- A) \$4.55 per direct labor-hour
- B) \$3.90 per direct labor-hour
- C) \$10.50 per direct labor-hour
- D) \$14.40 per direct labor-hour

239) Claybrooks Corporation has two manufacturing departments--Casting and Assembly. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Casting	Assembly	Total
Estimated total machine-hours (MHs)	3,000	2,000	5,000
Estimated total fixed manufacturing overhead cost	\$ 17,700	\$ 5,800	\$ 23,500
Estimated variable manufacturing overhead cost per MH	\$ 1.50	\$ 2.20	

Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. That predetermined manufacturing overhead rate is closest to:

- A) \$4.70
- B) \$7.40
- C) \$6.48
- D) \$3.70

240) Claybrooks Corporation has two manufacturing departments--Casting and Assembly. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Casting	Assembly	Total
Estimated total machine-hours (MHs)	3,000	2,000	5,000
Estimated total fixed manufacturing overhead cost	\$ 17,700	\$ 5,800	\$ 23,500
Estimated variable manufacturing overhead cost per MH	\$ 1.50	\$ 2.20	

Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both departments. The departmental predetermined overhead rate in the Casting Department is closest to:

- A) \$1.50
- B) \$7.40
- C) \$5.90
- D) \$6.48

241) Claybrooks Corporation has two manufacturing departments--Casting and Assembly. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Casting	Assembly	Total
Estimated total machine-hours (MHs)	3,000	2,000	5,000
Estimated total fixed manufacturing overhead cost	\$ 17,700	\$ 5,800	\$ 23,500
Estimated variable manufacturing overhead cost per MH	\$ 1.50	\$ 2.20	

Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both departments. The departmental predetermined overhead rate in the Assembly Department is closest to:

- A) \$2.90
- B) \$6.48
- C) \$5.10
- D) \$2.20

ESSAY. Write your answer in the space provided or on a separate sheet of paper.

242) Linnear Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	30,000
Total fixed manufacturing overhead cost	\$144,000
Variable manufacturing overhead per machine-hour	\$ 4.00

Required:

Calculate the estimated total manufacturing overhead for the year.

243) Dallman Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on 70,000 machine-hours, total fixed manufacturing overhead cost of \$287,000, and a variable manufacturing overhead rate of \$3.50 per machine-hour.

Required:

- a. Calculate the estimated total manufacturing overhead for the year.
- b. Calculate the predetermined overhead rate for the year.

244) Henkes Corporation bases its predetermined overhead rate on the estimated labor-hours for the upcoming year. At the beginning of the most recently completed year, the company estimated the labor-hours for the upcoming year at 64,000 labor-hours. The estimated variable manufacturing overhead was \$8.30 per labor-hour and the estimated total fixed manufacturing overhead was \$1,043,200. The actual labor-hours for the year turned out to be 67,200 labor-hours.

Required:

Compute the company's predetermined overhead rate for the recently completed year. (**Round your answer to 2 decimal places.**)

245) Crowson Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	50,000
Total fixed manufacturing overhead cost	\$390,000
Variable manufacturing overhead per machine-hour	\$ 3.60

Required:

Calculate the predetermined overhead rate for the year.

246) Cannizzaro Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on 40,000 machine-hours, total fixed manufacturing overhead cost of \$248,000, and a variable manufacturing overhead rate of \$3.80 per machine-hour.

Required:

Calculate the predetermined overhead rate for the year.

247) Quiet Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on 40,000 machine-hours, total fixed manufacturing overhead cost of \$152,000, and a variable manufacturing overhead rate of \$3.10 per machine-hour.

Required:

Calculate the estimated total manufacturing overhead for the year.

248) Florek Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

Total direct labor-hours	10,000
Total fixed manufacturing overhead cost	\$31,000
Variable manufacturing overhead per direct labor-hour	\$ 2.50

Required:

- Calculate the estimated total manufacturing overhead for the year.
- Calculate the predetermined overhead rate for the year.

249) Meenach Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on 63,000 direct labor-hours, total fixed manufacturing overhead cost of \$88,200, and a variable manufacturing overhead rate of \$2.90 per direct labor-hour. Recently Job X387 was completed and required 210 direct labor-hours.

Required:

Calculate the amount of overhead applied to Job X387. **(Do not round intermediate calculations.)**

250) Meenach Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on 80,000 direct labor-hours, total fixed manufacturing overhead cost of \$160,000, and a variable manufacturing overhead rate of \$2.30 per direct labor-hour. Recently Job X387 was completed and required 120 direct labor-hours.

Required:

Calculate the amount of overhead applied to Job X387. **(Do not round intermediate calculations.)**

251) Weakley Corporation uses a predetermined overhead rate that was based on estimated total fixed manufacturing overhead of \$358,000 and 20,000 machine-hours for the period. The company incurred actual total fixed manufacturing overhead of \$382,000 and 18,300 total machine-hours during the period.

Required:

Determine the amount of manufacturing overhead that would have been applied to all jobs during the period.

252) Fillmore Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on 60,000 direct labor-hours, total fixed manufacturing overhead cost of \$96,000, and a variable manufacturing overhead rate of \$3.30 per direct labor-hour. Recently Job X809 was completed and required 100 direct labor-hours.

Required:

- a. Calculate the estimated total manufacturing overhead for the year.
- b. Calculate the predetermined overhead rate for the year.
- c. Calculate the amount of overhead applied to Job X809.

253) Thrall Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	10,000
Total fixed manufacturing overhead cost	\$50,000
Variable manufacturing overhead per machine-hour	\$ 3.90

Recently Job K125 was completed and required 160 machine-hours.

Required:

Calculate the amount of overhead applied to Job K125.

254) Verry Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

Total direct labor-hours	60,000
Total fixed manufacturing overhead cost	\$342,000
Variable manufacturing overhead per direct labor-hour	\$ 2.40

Recently Job X711 was completed and required 90 direct labor-hours.

Required:

- Calculate the estimated total manufacturing overhead for the year.
- Calculate the predetermined overhead rate for the year.
- Calculate the amount of overhead applied to Job X711.

255) Trevigne Corporation uses a predetermined overhead rate base on machine-hours that it recalculates at the beginning of each year. The company has provided the following data for the most recent year.

Estimated total fixed manufacturing overhead from the beginning of the year	\$ 114,000
Estimated activity level from the beginning of the year	10,000 machine-hours
Actual total fixed manufacturing overhead	\$ 104,000
Actual activity level	9,400 machine-hours

Required:

Determine the amount of manufacturing overhead that would have been applied to all jobs during the period.

256) Luarca Corporation has two manufacturing departments--Casting and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Casting	Customizing	Total
Estimated total machine-hours (MHs)	2,000	3,000	5,000
Estimated total fixed manufacturing overhead cost	\$11,600	\$7,200	\$18,800
Estimated variable manufacturing overhead cost per MH	\$ 1.90	\$ 2.80	

During the most recent month, the company started and completed two jobs--Job F and Job L. There were no beginning inventories. Data concerning those two jobs follow:

	Job F	Job L
Direct materials	\$10,600	\$6,600
Direct labor cost	\$24,400	\$8,600
Casting machine-hours	1,400	600
Customizing machine-hours	1,200	1,800

Required:

Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours and uses a markup of 50% on manufacturing cost to establish selling prices. Calculate the selling prices for Job F and Job L.

257) Lamberson Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	50,000
Total fixed manufacturing overhead cost	\$460,000
Variable manufacturing overhead per machine-hour	\$ 3.10

Recently Job P647 was completed with the following characteristics:

Number of units in the job	50
Total machine-hours	150
Direct materials	\$ 740
Direct labor cost	\$6,000

Required:

- Calculate the amount of overhead applied to Job P647.
- Calculate the total job cost for Job P647.
- Calculate the unit product cost for Job P647.

258) Mcewan Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on 50,000 direct labor-hours, total fixed manufacturing overhead cost of \$390,000, and a variable manufacturing overhead rate of \$4.40 per direct labor-hour. Job X941, which was for 50 units of a custom product, was recently completed. The job cost sheet for the job contained the following data:

Total direct labor-hours	300
Direct materials	\$ 600
Direct labor cost	\$7,000

Required:

Calculate the selling price for Job X941 if the company marks up its unit product costs by 20%. **(Round intermediate calculations and final answer to 2 decimal places.)**

259) Mcewan Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on 20,000 direct labor-hours, total fixed manufacturing overhead cost of \$182,000, and a variable manufacturing overhead rate of \$2.50 per direct labor-hour. Job X941, which was for 50 units of a custom product, was recently completed. The job cost sheet for the job contained the following data:

Total direct labor-hours	250
Direct materials	\$ 740
Direct labor cost	\$ 6,500

Required:

Calculate the selling price for Job X941 if the company marks up its unit product costs by 20%. **(Round intermediate calculations and final answer to 2 decimal places.)**

260) Teasley Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on 70,000 machine-hours, total fixed manufacturing overhead cost of \$630,000, and a variable manufacturing overhead rate of \$3.40 per machine-hour. Job X159 was recently completed. The job cost sheet for the job contained the following data:

Total machine-hours	200
Direct materials	\$ 670
Direct labor cost	\$7,800

Required:

Calculate the total job cost for Job X159.

261) Alsobrooks Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	40,000
Total fixed manufacturing overhead cost	\$156,000
Variable manufacturing overhead per machine-hour	\$ 2.20

Recently Job M242 was completed with the following characteristics:

Number of units in the job	20
Total machine-hours	60
Direct materials	\$ 725
Direct labor cost	\$1,680

Required:

- a. Calculate the total job cost for Job M242.
- b. Calculate the unit product cost for Job M242.

262) Ryans Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	10,000
Total fixed manufacturing overhead cost	\$71,000
Variable manufacturing overhead per machine-hour	\$ 2.50

Recently Job P512 was completed with the following characteristics:

Number of units in the job	30
Total machine-hours	60
Direct materials	\$ 870
Direct labor cost	\$2,400

Required:

- Calculate the predetermined overhead rate for the year.
- Calculate the amount of overhead applied to Job P512.
- Calculate the total job cost for Job P512.
- Calculate the unit product cost for Job P512.

263) Lezo Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on 40,000 machine-hours, total fixed manufacturing overhead cost of \$136,000, and a variable manufacturing overhead rate of \$2.90 per machine-hour. Job A290, which was for 60 units of a custom product, was recently completed. The job cost sheet for the job contained the following data:

Total machine-hours	300
Direct materials	\$ 585
Direct labor cost	\$7,200

Required:

- a. Calculate the estimated total manufacturing overhead for the year.
- b. Calculate the predetermined overhead rate for the year.
- c. Calculate the amount of overhead applied to Job A290.
- d. Calculate the total job cost for Job A290.

264) Whitlatch Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	60,000
Total fixed manufacturing overhead cost	\$342,000
Variable manufacturing overhead per machine-hour	\$ 2.70

Recently Job M238 was completed with the following characteristics:

Number of units in the job	70
Total machine-hours	140
Direct materials	\$ 945
Direct labor cost	\$2,800

Required:

- Calculate the total job cost for Job M238.

265) Obermeyer Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on 10,000 direct labor-hours, total fixed manufacturing overhead cost of \$96,000, and a variable manufacturing overhead rate of \$3.60 per direct labor-hour. Job A735, which was for 40 units of a custom product, was recently completed. The job cost sheet for the job contained the following data:

Total direct labor-hours	200
Direct materials	\$ 540

Direct labor cost

\$6,400

Required:

- a. Calculate the amount of overhead applied to Job A735.
- b. Calculate the total job cost for Job A735.
- c. Calculate the unit product cost for Job A735.

266) Olmscheid Corporation has two manufacturing departments--Molding and Customizing. The company used the following data at the beginning of the period to calculate predetermined overhead rates:

	Molding	Customizing	Total
Estimated total machine-hours (MHs)	5,000	5,000	10,000
Estimated total fixed manufacturing overhead cost	\$21,000	\$14,000	\$ 35,000
Estimated variable manufacturing overhead cost per MH	\$ 1.50	\$ 2.40	

During the period, the company started and completed two jobs--Job F and Job K. There were no beginning inventories. Data concerning those two jobs follow:

	Job F	Job K
Direct materials	\$ 12,700	\$ 6,400
Direct labor cost	\$ 19,100	\$ 7,900
Molding machine-hours	3,400	1,600
Customizing machine-hours	2,000	3,000

Required:

- a. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate that overhead rate.
- b. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the amount of manufacturing overhead applied to Job F.
- c. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the amount of manufacturing overhead applied to Job K.
- d. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the total manufacturing cost assigned to Job F.
- e. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the total manufacturing cost assigned to Job K.
- f. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours and uses a markup of 30% on manufacturing cost to establish selling prices. Calculate the selling price for Job F.
- g. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours and uses a markup of 30% on manufacturing cost to establish selling prices. Calculate the selling price for Job K.
- h. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. If both jobs were sold during the month, what was the company's cost of goods sold for the month?

267) Cardosa Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on 70,000 machine-hours, total fixed manufacturing overhead cost of \$308,000, and a variable manufacturing overhead rate of \$2.10 per machine-hour. Job M556, which was for 50 units of a custom product, was recently completed. The job cost sheet for the job contained the following data:

Total machine-hours	100
Direct materials	\$ 555
Direct labor cost	\$2,700

Required:

- a. Calculate the total job cost for Job M556.
- b. Calculate the unit product cost for Job M556.

268) Dietzen Corporation has two manufacturing departments--Casting and Finishing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Casting	Finishing	Total
Estimated total machine-hours (MHs)	4,000	6,000	10,000
Estimated total fixed manufacturing overhead cost	\$ 18,000	\$ 18,000	\$ 36,000
Estimated variable manufacturing overhead cost per MH	\$ 1.50	2.30	

During the most recent month, the company started and completed two jobs--Job D and Job J. There were no beginning inventories. Data concerning those two jobs follow:

	Job D	Job J
Direct materials	\$ 14,300	\$ 6,800
Direct labor cost	\$ 21,700	\$ 8,800
Casting machine-hours	2,700	1,300
Finishing machine-hours	2,400	3,600

Required:

- a. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the total manufacturing cost assigned to Job D.
- b. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the total manufacturing cost assigned to Job J.

269) Posson Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on 20,000 machine-hours, total fixed manufacturing overhead cost of \$130,000, and a variable manufacturing overhead rate of \$3.00 per machine-hour. Job K789, which was for 10 units of a custom product, was recently completed. The job cost sheet for the job contained the following data:

Total machine-hours	30
Direct materials	\$ 775
Direct labor cost	\$1,170

Required:

- a. Calculate the predetermined overhead rate for the year.
- b. Calculate the amount of overhead applied to Job K789.
- c. Calculate the total job cost for Job K789.
- d. Calculate the unit product cost for Job K789

270) Rondo Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	30,000
Total fixed manufacturing overhead cost	\$252,000
Variable manufacturing overhead per machine-hour	\$ 2.90

Recently Job T506 was completed with the following characteristics:

Number of units in the job	70
Total machine-hours	210
Direct materials	\$ 665
Direct labor cost	\$6,720

Required:

- a. Calculate the estimated total manufacturing overhead for the year.
- b. Calculate the predetermined overhead rate for the year.
- c. Calculate the amount of overhead applied to Job T506.
- d. Calculate the total job cost for Job T506.
- e. Calculate the unit product cost for Job T506.
- f. Calculate the selling price for Job T506 if the company marks up its unit product costs by 20%.

271) Leadley Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

Total direct labor-hours	10,000
Total fixed manufacturing overhead cost	\$76,000
Variable manufacturing overhead per direct labor-hour	\$ 2.10

Recently Job X701 was completed with the following characteristics:

Number of units in the job	90
Total direct labor-hours	270
Direct materials	\$ 590
Direct labor cost	\$6,480

Required:

- a. Calculate the estimated total manufacturing overhead for the year.
- b. Calculate the predetermined overhead rate for the year.
- c. Calculate the amount of overhead applied to Job X701.
- d. Calculate the total job cost for Job X701

272) Pasko Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on the following data:

Total direct labor-hours	30,000
Total fixed manufacturing overhead cost	\$258,000
Variable manufacturing overhead per direct labor-hour	\$ 2.00

Recently Job P660 was completed with the following characteristics:

Number of units in the job	50
Total direct labor-hours	250
Direct materials	\$ 645

Direct labor cost \$10,000

Required:

Calculate the selling price for Job P660 if the company marks up its unit product costs by 20%.

273) Leeds Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	50,000
Total fixed manufacturing overhead cost	\$215,000
Variable manufacturing overhead per machine-hour	\$ 3.80

Recently Job T496 was completed with the following characteristics:

Number of units in the job	80
Total machine-hours	240
Direct materials	\$ 735
Direct labor cost	\$8,880

Required:

- Calculate the estimated total manufacturing overhead for the year.
- Calculate the predetermined overhead rate for the year.
- Calculate the amount of overhead applied to Job T496.
- Calculate the total job cost for Job T496.
- Calculate the unit product cost for Job T496.

274) Petru Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on the following data:

Total machine-hours	70,000
Total fixed manufacturing overhead cost	\$525,000
Variable manufacturing overhead per machine-hour	\$ 2.30

Recently Job P987 was completed with the following characteristics:

Number of units in the job	20
Total machine-hours	80
Direct materials	\$ 630
Direct labor cost	\$2,080

Required:

Calculate the unit product cost for Job P987.

275) Franta Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on direct labor-hours. The company based its predetermined overhead rate for the current year on 70,000 direct labor-hours, total fixed manufacturing overhead cost of \$238,000, and a variable manufacturing overhead rate of \$2.70 per direct labor-hour. Job P873, which was for 50 units of a custom product, was recently completed. The job cost sheet for the job contained the following data:

Total direct labor-hours	200
Direct materials	\$ 630
Direct labor cost	\$4,800

Required:

Calculate the unit product cost for Job P873.

276) Temby Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on 10,000 machine-hours, total fixed manufacturing overhead cost of \$88,000, and a variable manufacturing overhead rate of \$3.20 per machine-hour. Job K418, which was for 50 units of a custom product, was recently completed. The job cost sheet for the job contained the following data:

Total machine-hours	150
Direct materials	\$ 580

Direct labor cost

\$3,900

Required:

- a. Calculate the estimated total manufacturing overhead for the year.
- b. Calculate the predetermined overhead rate for the year.
- c. Calculate the amount of overhead applied to Job K418.
- d. Calculate the total job cost for Job K418.
- e. Calculate the unit product cost for Job K418.
- f. Calculate the selling price for Job K418 if the company marks up its unit product costs by 30%.

277) Saxon Corporation uses a job-order costing system with a single plantwide predetermined overhead rate based on machine-hours. The company based its predetermined overhead rate for the current year on 10,000 machine-hours, total fixed manufacturing overhead cost of \$91,000, and a variable manufacturing overhead rate of \$2.40 per machine-hour. Job K373, which was for 60 units of a custom product, was recently completed. The job cost sheet for the job contained the following data:

Total machine-hours	120
Direct materials	\$ 645
Direct labor cost	\$3,720

Required:

- a. Calculate the estimated total manufacturing overhead for the year.
- b. Calculate the predetermined overhead rate for the year.
- c. Calculate the amount of overhead applied to Job K373.
- d. Calculate the total job cost for Job K373.
- e. Calculate the unit product cost for Job K373

278) Kluth Corporation has two manufacturing departments--Molding and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Molding	Customizing	Total
Estimated total machine-hours (MHs)	12,000	2,800	14,800
Estimated total fixed manufacturing overhead cost	\$26,400	\$9,240	\$35,640
Estimated variable manufacturing overhead cost per MH	\$1.50	\$2.00	

During the most recent month, the company started and completed two jobs--Job C and Job M. There were no beginning inventories. Data concerning those two jobs follow:

	Job C	Job M
Direct materials	\$ 15,800	\$ 9,300
Direct labor cost	\$ 22,600	\$ 9,500
Molding machine-hours	2,500	9,500
Customizing machine-hours	1,800	1,000

Required:

Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both production departments. Further assume that the company uses a markup of 20% on manufacturing cost to establish selling prices. Calculate the selling prices for Job C and for Job M. **(Do not round intermediate calculations.)**

279) Kluth Corporation has two manufacturing departments--Molding and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Molding	Customizing	Total
Estimated total machine-hours (MHs)	3,000	2,000	5,000
Estimated total fixed manufacturing overhead cost	\$15,900	\$4,200	\$20,100
Estimated variable manufacturing overhead cost per MH	\$1.20	\$2.40	

During the most recent month, the company started and completed two jobs--Job C and Job M. There were no beginning inventories. Data concerning those two jobs follow:

	Job C	Job M
Direct materials	\$ 15,600	\$ 8,600
Direct labor cost	\$ 25,100	\$ 8,300
Molding machine-hours	2,000	1,000
Customizing machine-hours	800	1,200

Required:

Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both production departments. Further assume that the company uses a markup of 20% on manufacturing cost to establish selling prices. Calculate the selling prices for Job C and for Job M. **(Do not round intermediate calculations.)**

280) Amason Corporation has two production departments, Forming and Assembly. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department's predetermined overhead rate is based on machine-hours and the Assembly Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Forming	Assembly
Machine-hours	16,000	11,000
Direct labor-hours	2,000	6,000
Total fixed manufacturing overhead cost	\$102,400	\$66,000
Variable manufacturing overhead per machine-hour	\$ 1.90	
Variable manufacturing overhead per direct labor-hour		\$ 3.80

During the current month the company started and finished Job A950. The following data were recorded for this job:

Job A950:	Forming	Assembly
Machine-hours	50	20
Direct labor-hours	20	40
Direct materials	\$ 665	\$ 415

Direct labor cost	\$ 520	\$1,040
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Required:

Calculate the selling price for Job A950 if the company marks up its unit product costs by 30% to determine selling prices.

281) Dancel Corporation has two production departments, Milling and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Milling Department's predetermined overhead rate is based on machine-hours and the Finishing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Milling	Finishing
Machine-hours	17,000	14,000
Direct labor-hours	1,000	6,000
Total fixed manufacturing overhead cost	\$91,800	\$64,200
Variable manufacturing overhead per machine-hour	\$ 2.00	
Variable manufacturing overhead per direct labor-hour		\$ 3.40

During the current month the company started and finished Job M565. The following data were recorded for this job:

Job M565:	Milling	Finishing
Machine-hours	70	20
Direct labor-hours	10	40
Direct materials	\$ 750	\$ 360
Direct labor cost	\$ 340	\$1,360

Required:

- a. Calculate the total amount of overhead applied to Job M565 in both departments.
- b. Calculate the total job cost for Job M565.
- c. Calculate the selling price for Job M565 if the company marks up its unit product costs by 20% to determine selling prices.

282) Pangle Corporation has two production departments, Forming and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Forming	Customizing
Machine-hours	16,000	12,000
Direct labor-hours	4,000	9,000
Total fixed manufacturing overhead cost	\$91,200	\$99,000
Variable manufacturing overhead per machine-hour	\$ 2.10	
Variable manufacturing overhead per direct labor-hour		\$ 3.10

During the current month the company started and finished Job M109. The following data were recorded for this job:

Job M109:	Forming	Customizing
Machine-hours	50	30
Direct labor-hours	20	50
Direct materials	\$ 915	\$355
Direct labor cost	\$ 620	\$1,550

Required:

Calculate the total job cost for Job M109.

283) Vasilopoulos Corporation has two production departments, Casting and Assembly. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Casting Department's predetermined overhead rate is based on machine-hours and the Assembly Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Casting	Assembly
Machine-hours	17,000	11,000
Direct labor-hours	3,000	6,000
Total fixed manufacturing overhead cost	\$119,000	\$51,000
Variable manufacturing overhead per machine-hour	\$ 2.10	
Variable manufacturing overhead per direct labor-hour		\$ 3.10

During the current month the company started and finished Job A182. The following data were recorded for this job:

Job A182:	Casting	Assembly
Machine-hours	50	20
Direct labor-hours	10	50
Direct materials	\$ 895	\$ 365
Direct labor cost	\$ 240	\$1,200

Required:

- Calculate the estimated total manufacturing overhead for the Casting Department.
- Calculate the estimated total manufacturing overhead for the Assembly Department.
- Calculate the predetermined overhead rate for the Casting Department.
- Calculate the predetermined overhead rate for the Assembly Department.
- Calculate the total amount of overhead applied to Job A182 in both departments.
- Calculate the total job cost for Job A182.
- Calculate the selling price for Job A182 if the company marks up its unit product costs by 20% to determine selling prices.

284) Hultquist Corporation has two manufacturing departments--Forming and Customizing. The company used the following data at the beginning of the period to calculate predetermined overhead rates:

	Forming	Customizing	Total
Estimated total machine-hours (MHs)	4,000	6,000	10,000
Estimated total fixed manufacturing overhead cost	\$8,000	\$15,000	\$23,000
Estimated variable manufacturing overhead cost per MH	\$ 3.00	\$ 6.00	

During the period, the company started and completed two jobs--Job C and Job L. Data concerning those two jobs follow:

	Job C	Job L
Direct materials	\$ 16,000	\$ 9,400
Direct labor cost	\$ 22,700	\$ 9,700
Forming machine-hours	1,250	2,750
Customizing machine-hours	1,250	4,750

Required:

- a. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate that overhead rate. **(Round your answer to 2 decimal places.)**
- b. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the amount of manufacturing overhead applied to Job L. **(Do not round intermediate calculations.)**
- c. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the total manufacturing cost assigned to Job L. **(Do not round intermediate calculations.)**
- d. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours and uses a markup of 80% on manufacturing cost to establish selling prices. Calculate the selling price for Job L. **(Do not round intermediate calculations.)**
- e. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both departments. What is the *departmental* predetermined overhead rate in the Forming department? **(Round your answer to 2 decimal places.)**
- f. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. What is the *departmental* predetermined overhead rate in the Customizing department? **(Round your answer to 2 decimal places.)**
- g. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. How much manufacturing overhead will be applied to Job L? **(Do not round intermediate calculations.)**
- h. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. Further assume that the company uses a markup of 80% on manufacturing cost to establish selling prices. Calculate the selling price for Job L. **(Do not round intermediate calculations.)**

285) Hultquist Corporation has two manufacturing departments--Forming and Customizing. The company used the following data at the beginning of the period to calculate predetermined overhead rates:

	Forming	Customizing	Total
Estimated total machine-hours (MHs)	9,000	1,000	10,000
Estimated total fixed manufacturing	\$50,400	\$2,600	\$53,000

overhead cost

Estimated variable manufacturing overhead cost per MH	\$ 1.70	\$ 2.10
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During the period, the company started and completed two jobs--Job C and Job L. Data concerning those two jobs follow:

	Job C	Job L
Direct materials	\$ 15,100	\$ 6,900
Direct labor cost	\$ 20,800	\$ 8,500
Forming machine-hours	6,100	2,900
Customizing machine-hours	400	600

Required:

- Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate that overhead rate. **(Round your answer to 2 decimal places.)**
- Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the amount of manufacturing overhead applied to Job L. **(Do not round intermediate calculations.)**
- Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the total manufacturing cost assigned to Job L. **(Do not round intermediate calculations.)**
- Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours and uses a markup of 80% on manufacturing cost to establish selling prices. Calculate the selling price for Job L. **(Do not round intermediate calculations.)**
- Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both departments. What is the *departmental* predetermined overhead rate in the Forming department? **(Round your answer to 2 decimal places.)**
- Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. What is the *departmental* predetermined overhead rate in the Customizing department? **(Round your answer to 2 decimal places.)**
- Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. How much manufacturing overhead will be applied to Job L? **(Do not round intermediate calculations.)**
- Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. Further assume that the company uses a markup of 80% on manufacturing cost to establish selling prices. Calculate the selling price for Job L. **(Do not round intermediate calculations.)**

286) Carcana Corporation has two manufacturing departments--Machining and Finishing. The company used the following data at the beginning of the period to calculate predetermined overhead rates:

	Machining	Finishing	Total
Estimated total machine-hours (MHs)	1,000	4,000	5,000
Estimated total fixed manufacturing overhead cost	\$4,200	\$8,800	\$13,000
Estimated variable manufacturing overhead cost per MH	\$ 1.90	\$ 2.90	

During the period, the company started and completed two jobs--Job E and Job G. Data concerning those two jobs follow:

	Job E	Job G
Direct materials	\$ 11,800	\$ 8,000
Direct labor cost	\$ 19,200	\$ 6,700
Machining machine-hours	700	300
Finishing machine-hours	1,600	2,400

Required:

- a. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both departments. What is the *departmental* predetermined overhead rate in the Machining department?
- b. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. What is the *departmental* predetermined overhead rate in the Finishing department?
- c. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. How much manufacturing overhead will be applied to Job E?
- d. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. How much manufacturing overhead will be applied to Job G?
- e. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. Further assume that the company uses a markup of 80% on manufacturing cost to establish selling prices. Calculate the selling price for Job E.
- f. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. Further assume that the company uses a markup of 80% on manufacturing cost to establish selling prices. Calculate the selling price for Job G.
- g. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. If both jobs were sold during the month, what was the company's cost of goods sold for the month?

287) Braegelmann Corporation has two production departments, Casting and Assembly. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Casting Department's predetermined overhead rate is based on machine-hours and the Assembly Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Casting	Assembly
Machine-hours	20,000	14,000
Direct labor-hours	4,000	6,000

Total fixed manufacturing overhead cost	\$110,000	\$65,400
Variable manufacturing overhead per machine-hour	\$ 1.60	
Variable manufacturing overhead per direct labor-hour		\$ 4.50

During the current month the company started and finished Job K246. The following data were recorded for this job:

Job K246:	Casting	Assembly
Machine-hours	60	30
Direct labor-hours	20	40
Direct materials	\$ 950	\$ 305
Direct labor cost	\$ 460	\$ 920

Required:

- Calculate the estimated total manufacturing overhead for the Casting Department.
- Calculate the estimated total manufacturing overhead for the Assembly Department.
- Calculate the predetermined overhead rate for the Casting Department.
- Calculate the predetermined overhead rate for the Assembly Department.
- Calculate the amount of overhead applied in the Casting Department to Job K246.
- Calculate the amount of overhead applied in the Assembly Department to Job K246.
- Calculate the total job cost for Job K246.
- Calculate the selling price for Job K246 if the company marks up its unit product costs by 40% to determine selling prices.

288) Matrejek Corporation has two manufacturing departments--Forming and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Forming	Customizing	Total
Estimated total machine-hours (MHs)	8,000	2,000	10,000
Estimated total fixed manufacturing overhead cost	\$36,800	\$4,800	\$41,600
Estimated variable manufacturing overhead cost per MH	\$ 1.60	\$ 2.90	

During the most recent month, the company started and completed two jobs--Job D and Job K. There were no beginning inventories. Data concerning those two jobs follow:

	Job D	Job K
Direct materials	\$15,600	\$6,900
Direct labor cost	\$19,100	\$8,700
Forming machine-hours	5,400	2,600
Customizing machine-hours	800	1,200

Required:

a. Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours and uses a markup of 50% on manufacturing cost to establish selling prices. Calculate the selling price for Job D.

b. Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours and uses a markup of 50% on manufacturing cost to establish selling prices. Calculate the selling price for Job K.

c. Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both production departments. Further assume that the company uses a markup of 50% on manufacturing cost to establish selling prices. Calculate the selling price for Job D.

d. Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both production departments. Further assume that the company uses a markup of 50% on manufacturing cost to establish selling prices. Calculate the selling price for Job K.

289) Harnett Corporation has two manufacturing departments--Molding and Assembly. The company used the following data at the beginning of the period to calculate predetermined overhead rates:

	Molding	Assembly	Total
Estimated total machine-hours (MHs)	4,000	6,000	10,000
Estimated total fixed manufacturing overhead cost	\$22,000	\$20,400	\$42,400
Estimated variable manufacturing overhead cost per MH	\$ 3.00	\$ 6.00	

During the period, the company started and completed two jobs--Job E and Job M. Data concerning those two jobs follow:

	Job E	Job M
Direct materials	\$ 22,500	\$ 8,400
Direct labor cost	\$ 22,700	\$ 8,000
Molding machine-hours	2,500	1,500
Assembly machine-hours	1,250	4,750

Required:

- a. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate that overhead rate. **(Round your answer to 2 decimal places.)**
- b. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the amount of manufacturing overhead applied to Job E. **(Do not round intermediate calculations.)**
- c. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the total manufacturing cost assigned to Job E. **(Do not round intermediate calculations.)**
- d. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours and uses a markup of 80% on manufacturing cost to establish selling prices. Calculate the selling price for Job E. **(Do not round intermediate calculations.)**
- e. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both departments. What is the *departmental* predetermined overhead rate in the Molding department? **(Round your answer to 2 decimal places.)**
- f. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. What is the *departmental* predetermined overhead rate in the Assembly department? **(Round your answer to 2 decimal places.)**
- g. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. How much manufacturing overhead will be applied to Job E? **(Do not round intermediate calculations.)**
- h. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. Further assume that the company uses a markup of 80% on manufacturing cost to establish selling prices. Calculate the selling price for Job E. **(Do not round intermediate calculations.)**

290) Harnett Corporation has two manufacturing departments--Molding and Assembly. The company used the following data at the beginning of the period to calculate predetermined overhead rates:

	Molding	Assembly	Total
Estimated total machine-hours (MHs)	5,000	5,000	10,000
Estimated total fixed manufacturing overhead cost	\$29,000	\$13,500	\$42,500
Estimated variable manufacturing overhead cost per MH	\$ 1.20	\$ 2.30	

During the period, the company started and completed two jobs--Job E and Job M. Data concerning those two jobs follow:

	Job E	Job M
Direct materials	\$ 14,300	\$ 9,400
Direct labor cost	\$ 22,800	\$ 8,900
Molding machine-hours	3,400	1,600
Assembly machine-hours	2,000	3,000

Required:

- a. Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours. Calculate that overhead rate. **(Round your answer to 2 decimal places.)**
- b. Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours. Calculate the amount of manufacturing overhead applied to Job E. **(Do not round intermediate calculations.)**
- c. Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours. Calculate the total manufacturing cost assigned to Job E. **(Do not round intermediate calculations.)**
- d. Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours and uses a markup of 60% on manufacturing cost to establish selling prices. Calculate the selling price for Job E. **(Do not round intermediate calculations.)**
- e. Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both departments. What is the departmental predetermined overhead rate in the Molding department? **(Round your answer to 2 decimal places.)**
- f. Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both production departments. What is the departmental predetermined overhead rate in the Assembly department? **(Round your answer to 2 decimal places.)**
- g. Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both production departments. How much manufacturing overhead will be applied to Job E? **(Do not round intermediate calculations.)**
- h. Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both production departments. Further assume that the company uses a markup of 60% on manufacturing cost to establish selling prices. Calculate the selling price for Job E. **(Do not round intermediate calculations.)**

291) Bulla Corporation has two production departments, Machining and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Machining Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Machining	Customizing
Machine-hours	15,000	19,000
Direct labor-hours	4,000	5,000
Total fixed manufacturing overhead cost	\$67,500	\$76,000
Variable manufacturing overhead per machine-hour	\$ 1.50	
Variable manufacturing overhead per direct labor-hour		\$ 3.00

During the current month the company started and finished Job K369. The following data were recorded for this job:

Job K369:	Machining	Customizing
Machine-hours	80	30
Direct labor-hours	10	70

Required:

Calculate the total amount of overhead applied to Job K369 in both departments. **(Do not round intermediate calculations.)**

292) Bulla Corporation has two production departments, Machining and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Machining Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Machining	Customizing
Machine-hours	19,000	13,000
Direct labor-hours	2,000	9,000
Total fixed manufacturing overhead cost	\$98,800	\$84,600
Variable manufacturing overhead per machine-hour	\$ 2.10	
Variable manufacturing overhead per direct labor-hour		\$ 3.60

During the current month the company started and finished Job K369. The following data were recorded for this job:

Job K369:	Machining	Customizing
Machine-hours	90	10
Direct labor-hours	20	50

Required:

Calculate the total amount of overhead applied to Job K369 in both departments. **(Do not round intermediate calculations.)**

293) Bierce Corporation has two manufacturing departments--Machining and Finishing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Machining	Finishing	Total
Estimated total machine-hours (MHs)	7,000	3,000	10,000
Estimated total fixed manufacturing overhead cost	\$8,400	\$11,700	\$20,100
Estimated variable manufacturing overhead cost per MH	\$ 3.00	\$ 5.00	

During the most recent month, the company started and completed two jobs--Job B and Job K. There were no beginning inventories. Data concerning those two jobs follow:

	Job B	Job K
Direct materials	\$ 21,400	\$ 8,600
Direct labor cost	\$ 21,800	\$ 1,250
Machining machine-hours	5,000	2,000
Finishing machine-hours	500	2,500

Required:

- a. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate that overhead rate. **(Round your answer to 2 decimal places.)**
- b. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the amount of manufacturing overhead applied to Job B. **(Do not round intermediate calculations.)**
- c. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the amount of manufacturing overhead applied to Job K. **(Do not round intermediate calculations. Round your answer to the nearest whole dollar amount.)**
- d. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both departments. What is the *departmental* predetermined overhead rate in the Machining department? **(Round your answer to 2 decimal places.)**
- e. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. What is the *departmental* predetermined overhead rate in the Finishing department? **(Round your answer to 2 decimal places.)**
- f. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. How much manufacturing overhead will be applied to Job B? **(Do not round intermediate calculations.)**
- g. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. How much manufacturing overhead will be applied to Job K? **(Do not round intermediate calculations.)**

294) Bierce Corporation has two manufacturing departments--Machining and Finishing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Machining	Finishing	Total
Estimated total machine-hours (MHs)	4,000	1,000	5,000
Estimated total fixed manufacturing overhead cost	\$20,000	\$2,100	\$22,100
Estimated variable manufacturing overhead cost per MH	\$ 1.40	\$ 2.80	

During the most recent month, the company started and completed two jobs--Job B and Job K. There were no beginning inventories. Data concerning those two jobs follow:

	Job B	Job K
Direct materials	\$ 12,800	\$ 7,900
Direct labor cost	\$ 24,700	\$ 6,400
Machining machine-hours	2,700	1,300
Finishing machine-hours	400	600

Required:

- a. Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours. Calculate that overhead rate. **(Round your answer to 2 decimal places.)**
- b. Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours. Calculate the amount of manufacturing overhead applied to Job B. **(Do not round intermediate calculations.)**
- c. Assume that the company uses a plantwide predetermined manufacturing overhead rate based on machine-hours. Calculate the amount of manufacturing overhead applied to Job K. **(Do not round intermediate calculations. Round your answer to the nearest whole dollar amount.)**
- d. Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both departments. What is the departmental predetermined overhead rate in the Machining department? **(Round your answer to 2 decimal places.)**
- e. Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both production departments. What is the departmental predetermined overhead rate in the Finishing department? **(Round your answer to 2 decimal places.)**
- f. Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both production departments. How much manufacturing overhead will be applied to Job B? **(Do not round intermediate calculations.)**
- g. Assume that the company uses departmental predetermined overhead rates with machine-hours as the allocation base in both production departments. How much manufacturing overhead will be applied to Job K? **(Do not round intermediate calculations.)**

295) Gercak Corporation has two production departments, Forming and Assembly. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department's predetermined overhead rate is based on machine-hours and the Assembly Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Forming	Assembly
Machine-hours	16,000	11,000
Direct labor-hours	2,000	7,000
Total fixed manufacturing overhead cost	\$100,800	\$76,300
Variable manufacturing overhead per machine-hour	\$ 1.70	
Variable manufacturing overhead per direct labor-hour		\$ 3.10

During the current month the company started and finished Job X560. The following data were recorded for this job:

Job X560	Forming	Assembly
Machine-hours	50	30
Direct labor-hours	30	40

Required:

- Calculate the estimated total manufacturing overhead for the Assembly Department.
- Calculate the predetermined overhead rate for the Forming Department.
- Calculate the total amount of overhead applied to Job X560 in both departments.

296) Sonneborn Corporation has two manufacturing departments--Molding and Customizing. The company used the following data at the beginning of the year to calculate predetermined overhead rates:

	Molding	Customizing	Total
Estimated total machine-hours (MHs)	1,000	9,000	10,000
Estimated total fixed manufacturing overhead cost	\$5,100	\$23,400	\$28,500
Estimated variable manufacturing overhead cost per MH	\$ 1.50	\$ 2.50	

During the most recent month, the company started and completed two jobs--Job D and Job G. There were no beginning inventories. Data concerning those two jobs follow:

	Job D	Job G
Direct materials	\$ 14,700	\$ 9,100
Direct labor cost	\$ 18,800	\$ 8,300
Molding machine-hours	700	300
Customizing machine-hours	3,600	5,400

Required:

- a. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the amount of manufacturing overhead applied to Job D.
- b. Assume that the company uses a *plantwide* predetermined manufacturing overhead rate based on machine-hours. Calculate the amount of manufacturing overhead applied to Job G.
- c. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. How much manufacturing overhead will be applied to Job D?
- d. Assume that the company uses *departmental* predetermined overhead rates with machine-hours as the allocation base in both production departments. How much manufacturing overhead will be applied to Job G?

297) Rocher Corporation has two production departments, Casting and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Casting Department's predetermined overhead rate is based on machine-hours and the Finishing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Casting	Finishing
Machine-hours	17,000	13,000
Direct labor-hours	4,000	6,000
Total fixed manufacturing overhead cost	\$124,100	\$52,200
Variable manufacturing overhead per machine-hour	\$ 2.30	
Variable manufacturing overhead per direct labor-hour		\$ 4.00

During the current month the company started and finished Job A394. The following data were recorded for this job:

Job A394	Casting	Finishing
Machine-hours	80	20
Direct labor-hours	10	40

Required:

- Calculate the estimated total manufacturing overhead for the Casting Department.
- Calculate the predetermined overhead rate for the Casting Department.
- Calculate the amount of overhead applied in the Casting Department to Job A394.

298) Marius Corporation has two production departments, Casting and Finishing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Casting Department's predetermined overhead rate is based on machine-hours and the Finishing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Casting	Finishing
Machine-hours	18,000	12,000
Direct labor-hours	4,000	6,000
Total fixed manufacturing overhead cost	\$118,800	\$57,600
Variable manufacturing overhead per machine-hour	\$ 2.20	
Variable manufacturing overhead per direct labor-hour		\$ 4.00

During the current month the company started and finished Job K895. The following data were recorded for this job:

Job K895:	Casting	Finishing
Machine-hours	70	30
Direct labor-hours	20	60

Required:

- Calculate the estimated total manufacturing overhead for the Finishing Department.
- Calculate the predetermined overhead rate for the Finishing Department.
- Calculate the amount of overhead applied in the Finishing Department to Job K895.

299) Madole Corporation has two production departments, Forming and Customizing. The company uses a job-order costing system and computes a predetermined overhead rate in each production department. The Forming Department's predetermined overhead rate is based on machine-hours and the Customizing Department's predetermined overhead rate is based on direct labor-hours. At the beginning of the current year, the company had made the following estimates:

	Forming	Customizing
Machine-hours	19,000	12,000
Direct labor-hours	4,000	8,000
Total fixed manufacturing overhead cost	\$119,700	\$67,200
Variable manufacturing overhead per machine-hour	\$ 2.00	
Variable manufacturing overhead per direct labor-hour		\$ 4.20

During the current month the company started and finished Job K973. The following data were recorded for this job:

Job K973:	Forming	Customizing
Machine-hours	50	20
Direct labor-hours	20	50

Required:

- Calculate the estimated total manufacturing overhead for the Forming Department.
- Calculate the predetermined overhead rate for the Customizing Department.
- Calculate the total overhead applied to Job K973 in both departments.

300) Sullen Corporation uses a predetermined overhead rate base on machine-hours that it recalculates at the beginning of each year. The company has provided the following data for the most recent year.

Predetermined overhead rate	\$ 14.30 per machine-hour
Estimated total fixed manufacturing overhead from the beginning of the year	\$572,000
Estimated activity level from the beginning of the year	40,000 machine-hours
Actual total fixed manufacturing overhead	\$605,000
Actual activity level	36,700 machine-hours

Required:

Determine the amount of manufacturing overhead that would have been applied to all jobs during the period.

301) Levi Corporation uses a predetermined overhead rate of \$23.40 per direct labor-hour. This predetermined overhead rate was based on estimated total fixed manufacturing overhead of \$702,000 and 30,000 direct labor-hours for the period. The company incurred actual total fixed manufacturing overhead of \$738,000 and 27,100 total direct labor-hours during the period.

Required:

Determine the amount of manufacturing overhead that would have been applied to all jobs during the period.

302) Henkes Corporation bases its predetermined overhead rate on the estimated labor-hours for the upcoming year. At the beginning of the most recently completed year, the company estimated the labor-hours for the upcoming year at 66,000 labor-hours. The estimated variable manufacturing overhead was \$8.41 per labor-hour and the estimated total fixed manufacturing overhead was \$1,533,180. The actual labor-hours for the year turned out to be 68,400 labor-hours.

Required:

Compute the company's predetermined overhead rate for the recently completed year.

303) Mccaughan Corporation bases its predetermined overhead rate on the estimated labor-hours for the upcoming year. Data for the most recently completed year appear below:

Estimates made at the beginning of the year:

Estimated labor-hours	37,000
Estimated variable manufacturing overhead	\$ 4.43 per labor-hour
Estimated total fixed manufacturing overhead	\$ 705,220
Actual labor-hours for the year	32,100

Required:

Compute the company's predetermined overhead rate for the recently completed year.

304) Moscone Corporation bases its predetermined overhead rate on the estimated labor-hours for the upcoming year. At the beginning of the most recently completed year, the company estimated the labor-hours for the upcoming year at 78,000 labor-hours. The estimated variable manufacturing overhead was \$9.99 per labor-hour and the estimated total fixed manufacturing overhead was \$985,920.

Required:

Compute the company's predetermined overhead rate.

305) Lightner Corporation bases its predetermined overhead rate on the estimated machine-hours for the upcoming year. Data for the upcoming year appear below:

Estimated machine-hours	50,000
Estimated variable manufacturing overhead	\$ 8.82 per machine-hour
Estimated total fixed manufacturing overhead	\$ 1,077,000

Required:

Compute the company's predetermined overhead rate.

306) Job 243 was recently completed. The following data have been recorded on its job cost sheet:

Direct materials	\$ 48,870
Direct labor-hours	405 labor-hours
Direct labor wage rate	\$ 13 per labor-hour
Machine-hours	486 machine-hours
Number of units completed	2,700 units

The company applies manufacturing overhead on the basis of machine-hours. The predetermined overhead rate is \$11 per machine-hour.

Required:

Compute the unit product cost that would appear on the job cost sheet for this job.

307) Job 652 was recently completed. The following data have been recorded on its job cost sheet:

Direct materials	\$ 59,400
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Direct labor-hours	1,224 DLHs
Direct labor wage rate	\$ 15 per DLH
Number of units completed	3,600 units

The company applies manufacturing overhead on the basis of direct labor-hours. The predetermined overhead rate is \$35 per direct labor-hour.

Required:

Compute the unit product cost that would appear on the job cost sheet for this job.

Answer Key

Test name: Noreen 2

- 1) C
- 2) D
- 3) B
- 4) D
- 5) D
- 6) B
- 7) C
- 8) A
- 9) C
- 10) B
- 11) B
- 12) C
- 13) B
- 14) D
- 15) A

Rent on factory building	\$ 15,000
Depreciation on factory equipment	8,000
Indirect labor	12,000
Production supervisor's salary	15,000
Manufacturing overhead	<u>\$ 50,000</u>

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base

Predetermined overhead rate = \$50,000 ÷ 20,000 direct labor-hours = \$2.50 per direct labor-hour

- 16) C

Department A Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base

Predetermined overhead rate = \$90,000 ÷ \$60,000 = 150% of direct labor cost

Department B Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base

Predetermined overhead rate = \$45,000 ÷ 15,000 machine-hours = \$3.00 per machine-hour

17) B

Estimated total fixed manufacturing overhead (a)	\$ 121,000
Estimated activity level (b)	10,000
Predetermined overhead rate (a) ÷ (b)	<u>\$ 12.10</u>

18) D

Salary of production supervisor	\$ 2,000
Indirect materials	400
Rent on factory equipment	1,000
Total manufacturing overhead	<u><u>\$ 3,400</u></u>

Predetermined overhead rate = Estimated total manufacturing overhead ÷ Estimated total amount of the allocation base = \$3,400 ÷ 1,000 machine-hours = \$3.40 per machine-hour

19) A

Estimated total fixed manufacturing overhead (a)	\$ 534,000
Estimated activity level (b)	30,000
Predetermined overhead rate (a) ÷ (b)	<u>\$ 17.80</u>

20) C

Estimated total manufacturing overhead = \$838,720 + (\$3.40 per machine-hour × 72,400 machine-hours) = \$1,084,880

Predetermined overhead rate = Estimated total manufacturing overhead ÷ Estimated total amount of the allocation base = \$1,084,880 ÷ 72,400 machine-hours = \$14.98 per machine-hour

21) B

Estimated total manufacturing overhead = \$1,058,040 + (\$3.01 per machine-hour × 36,000 machine-hours) = \$1,166,400

Predetermined overhead rate = Estimated total manufacturing overhead ÷ Estimated total amount of the allocation base = \$1,166,400 ÷ 36,000 machine-hours = \$32.40 per machine-hour

22) A

Estimated total manufacturing overhead = \$1,194,345 + (\$4.10 per machine-hour × 40,500 machine-hours) = \$1,360,395

Predetermined overhead rate = Estimated total manufacturing overhead ÷ Estimated total amount of the allocation base = \$1,360,395 ÷ 40,500 machine-hours = \$33.59 per machine-hour

23) A

Estimated total manufacturing overhead = \$2,347,090 + (\$7.38 per machine-hour × 79,000 machine-hours) = \$2,930,110

Predetermined overhead rate = Estimated total manufacturing overhead ÷ Estimated total amount of the allocation base = \$2,930,110 ÷ 79,000 machine-hours = \$37.09 per machine-hour

24) C

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$144,000 + (\$2.00 per machine-hour × 60,000 machine-hours) = \$144,000 + \$120,000 = \$264,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$264,000 ÷ 60,000 machine-hours = \$4.40 per machine-hour

25) A

Estimated total manufacturing overhead = \$1,037,855 + (\$5.49 per labor-hour × 45,500 labor-hours) = \$1,287,650

Predetermined overhead rate = Estimated total manufacturing overhead ÷ Estimated total amount of the allocation base = \$1,287,650 ÷ 45,500 labor-hours = \$28.30 per labor-hour

26) A

Estimated total manufacturing overhead = \$1,026,260 + (\$6.25 per labor-hour × 46,000 labor-hours) = \$1,313,760

Predetermined overhead rate = Estimated total manufacturing overhead ÷ Estimated total amount of the allocation base = \$1,313,760 ÷ 46,000 labor-hours = \$28.56 per labor-hour

27) D

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$440,000 + (\$2.20 per machine-hour × 50,000 machine-hours) = \$440,000 + \$110,000 = \$550,000

28) B

Estimated total manufacturing overhead = \$775,840 + (\$5.39 per machine-hour × 37,300 machine-hours) = \$976,887

Predetermined overhead rate = Estimated total manufacturing overhead ÷ Estimated total amount of the allocation base = \$976,887 ÷ 37,300 machine-hours = \$26.19 per machine-hour

29) B

Estimated total manufacturing overhead = \$794,430 + (\$6.76 per machine-hour × 39,000 machine-hours) = \$1,058,070

Predetermined overhead rate = Estimated total manufacturing overhead ÷ Estimated total amount of the allocation base = \$1,058,070 ÷ 39,000 machine-hours = \$27.13 per machine-hour

30) A

Salary of production supervisor	\$ 40,000
Indirect materials	8,000
Rent on factory equipment	20,000
Manufacturing overhead	<u>\$ 68,000</u>

Predetermined overhead rate = Estimated total manufacturing overhead
 ÷ Estimated total amount of the allocation base

Predetermined overhead rate = \$68,000 ÷ 16,000 machine-hours =
 \$4.25 per machine-hour

31) D

Estimated total manufacturing overhead cost = Estimated total fixed
 manufacturing overhead cost + (Estimated variable overhead cost per
 unit of the allocation base × Estimated total amount of the allocation
 base) = \$189,000 + (\$2.50 per direct labor-hour × 30,000 direct labor-
 hours) = \$189,000 + \$75,000 = \$264,000

Predetermined overhead rate = Estimated total manufacturing
 overhead cost ÷ Estimated total amount of the allocation base =
 \$264,000 ÷ 30,000 direct labor-hours = \$8.80 per direct labor-hour

32) B

Estimated total manufacturing overhead cost = Estimated total fixed
 manufacturing overhead cost + (Estimated variable overhead cost per
 unit of the allocation base × Estimated total amount of the allocation
 base) = \$357,000 + (\$3.90 per machine-hour × 70,000 machine-hours) =
 \$357,000 + \$273,000 = \$630,000

33) A

The first step is to calculate the estimated total overhead costs in the two
 departments.

Forming

Estimated fixed manufacturing overhead	\$ 40,600
Estimated variable manufacturing overhead (\$1.30 per MH × 7,000 MHs)	9,100
Estimated total manufacturing overhead cost	<u>\$ 49,700</u>

Finishing

Estimated fixed manufacturing overhead	\$ 8,100
Estimated variable manufacturing overhead (\$2.80 per MH × 3,000 MHs)	8,400
Estimated total manufacturing overhead cost	<u>\$ 16,500</u>

The second step is to combine the estimated manufacturing overhead costs in the two departments (\$49,700 + \$16,500 = \$66,200) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$ 66,200
Estimated total machine hours	10,000 MHs
Predetermined overhead rate	\$ 6.62 per MH

34) A

Estimated total fixed manufacturing overhead (a)	\$ 492,000
Estimated activity level (b)	30,000
Predetermined overhead rate (a) ÷ (b)	<u>\$ 16.40</u>
Actual activity level	28,300
Manufacturing overhead applied	<u>\$ 464,120</u>

35) A

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$344,000 + (\$3.90 per machine-hour × 40,000 machine-hours) = \$344,000 + \$156,000 = \$500,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$500,000 ÷ 40,000 machine-hours = \$12.50 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$12.50 per machine-hour × 60 machine-hours = \$750

36) A

The first step is to calculate the estimated total overhead costs in the two departments.

Forming

Estimated fixed manufacturing overhead	\$ 52,200
Estimated variable manufacturing overhead (\$2.00 per MH × 9,000 MHs)	18,000
Estimated total manufacturing overhead cost	<u>\$ 70,200</u>

Assembly

Estimated fixed manufacturing overhead	\$ 2,400
Estimated variable manufacturing overhead (\$2.10 per MH × 1,000 MHs)	2,100
Estimated total manufacturing overhead cost	<u>\$ 4,500</u>

The second step is to combine the estimated manufacturing overhead costs in the two departments (\$70,200 + \$4,500 = \$74,700) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$ 74,700
Estimated total machine hours	10,000 MHs
Predetermined overhead rate	\$ 7.47 per MH

The overhead applied to Job B is calculated as follows:

$$\begin{aligned}
 \text{Overhead applied to a particular job} &= \text{Predetermined overhead rate} \times \\
 &\text{Machine-hours incurred by the job} \\
 &= \$7.47 \text{ per MH} \times (6,100 \text{ MHs} + 400 \text{ MHs}) \\
 &= \$7.47 \text{ per MH} \times (6,500 \text{ MHs}) \\
 &= \$48,555
 \end{aligned}$$

37) B

The first step is to calculate the estimated total overhead costs in the two departments.

Casting

Estimated fixed manufacturing overhead	\$ 44,000
Estimated variable manufacturing overhead (\$1.90 per MH × 8,000 MHs)	15,200
Estimated total manufacturing overhead cost	<u>\$ 59,200</u>

Assembly

Estimated fixed manufacturing overhead	\$ 4,200
Estimated variable manufacturing overhead (\$3.00 per MH × 2,000 MHs)	6,000
Estimated total manufacturing overhead cost	<u>\$ 10,200</u>

The second step is to combine the estimated manufacturing overhead costs in the two departments ($\$59,200 + \$10,200 = \$69,400$) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$ 69,400
Estimated total machine hours	10,000 MHs
Predetermined overhead rate	\$ 6.94 per MH

The overhead applied to Job H is calculated as follows:

$$\begin{aligned}
 \text{Overhead applied to a particular job} &= \text{Predetermined overhead rate} \times \\
 &\text{Machine-hours incurred by the job} \\
 &= \$6.94 \text{ per MH} \times (2,600 \text{ MHs} + 1,200 \text{ MHs}) \\
 &= \$6.94 \text{ per MH} \times (3,800 \text{ MHs}) \\
 &= \$26,372
 \end{aligned}$$

38) D

Overhead applied = Predetermined overhead rate × Amount of the allocation base incurred
 $\$600 = \text{Predetermined overhead rate} \times \150

$$\text{Predetermined overhead rate} = \$600 \div \$150 = 4.0$$

Direct materials	\$ 480
Direct labor (\$150 + \$100)	250
Manufacturing overhead applied (4.0 × \$250)	1,000
Total product cost	<u>\$ 1,730</u>

39) B

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$105,000 + (\$3.00 per machine-hour × 70,000 machine-hours) = \$105,000 + \$210,000 = \$315,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$315,000 ÷ 70,000 machine-hours = \$4.50 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$4.50 per machine-hour × 60 machine-hours = \$270

40) A

Estimated total fixed manufacturing overhead (a)	\$ 684,000
Estimated activity level (b)	40,000
Predetermined overhead rate (a) ÷ (b)	<u>\$ 17.10</u>
Actual activity level	37,700
Manufacturing overhead applied	<u>\$ 644,670</u>

41) A

The first step is to calculate the estimated total overhead costs in the two departments.

Molding

Estimated fixed manufacturing overhead	\$ 4,000
Estimated variable manufacturing overhead (\$2.00 per MH × 1,000 MHs)	2,000
Estimated total manufacturing overhead cost	<u>\$ 6,000</u>

Customizing

Estimated fixed manufacturing overhead	\$ 25,200
Estimated variable manufacturing overhead (\$3.00 per MH × 9,000 MHs)	27,000
Estimated total manufacturing overhead cost	<u>\$ 52,200</u>

The second step is to combine the estimated manufacturing overhead costs in the two departments (\$6,000 + \$52,200 = \$58,200) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$ 58,200
Estimated total machine hours	10,000 MHs
Predetermined overhead rate	\$ 5.82 per MH

The overhead applied to Job K is calculated as follows:

$$\begin{aligned}
 &\text{Overhead applied to a particular job} = \text{Predetermined overhead rate} \times \\
 &\text{Machine-hours incurred by the job} \\
 &= \$5.82 \text{ per MH} \times (300 \text{ MHs} + 5,400 \text{ MHs}) \\
 &= \$5.82 \text{ per MH} \times (5,700 \text{ MHs}) \\
 &= \$33,174
 \end{aligned}$$

Job K's manufacturing cost:

Direct materials	\$ 8,400
Direct labor cost	6,800
Manufacturing overhead applied	33,174
Total manufacturing cost	<u>\$ 48,374</u>

The selling price for Job K:

Total manufacturing cost	\$ 48,374
Markup (50%)	24,187
Selling price	<u>\$ 72,561</u>

42) C

$$\begin{aligned}
 &\text{Estimated total manufacturing overhead cost} = \text{Estimated total fixed} \\
 &\text{manufacturing overhead cost} + (\text{Estimated variable overhead cost per} \\
 &\text{unit of the allocation base} \times \text{Estimated total amount of the allocation} \\
 &\text{base}) = \$665,000 + (\$3.00 \text{ per machine-hour} \times 70,000 \text{ machine-hours}) = \\
 & \$665,000 + \$210,000 = \$875,000
 \end{aligned}$$

$$\begin{aligned}
 &\text{Predetermined overhead rate} = \text{Estimated total manufacturing} \\
 &\text{overhead cost} \div \text{Estimated total amount of the allocation base} = \\
 & \$875,000 \div 70,000 \text{ machine-hours} = \$12.50 \text{ per machine-hour}
 \end{aligned}$$

$$\begin{aligned}
 &\text{Overhead applied to a particular job} = \text{Predetermined overhead rate} \times \\
 &\text{Amount of the allocation base incurred by the job} = \$12.50 \text{ per machine-} \\
 &\text{hour} \times 90 \text{ machine-hours} = \$1,125
 \end{aligned}$$

Direct materials	\$ 630
Direct labor	2,880

Manufacturing overhead applied	1,125
Total cost of Job T321	<u>\$ 4,635</u>
Total cost of Job T321 (a)	<u>\$ 4,635</u>
Number of units (b)	30
Unit product cost (a) ÷ (b)	\$ 154.50

43) A

The first step is to calculate the estimated total overhead costs in the two departments.

Machining

Estimated fixed manufacturing overhead	\$ 22,000
Estimated variable manufacturing overhead (\$1.80 per MH × 5,000 MHs)	9,000
Estimated total manufacturing overhead cost	<u>\$ 31,000</u>

Customizing

Estimated fixed manufacturing overhead	\$ 11,500
Estimated variable manufacturing overhead (\$3.00 per MH × 5,000 MHs)	15,000
Estimated total manufacturing overhead cost	<u>\$ 26,500</u>

The second step is to combine the estimated manufacturing overhead costs in the two departments (\$31,000 + \$26,500 = \$57,500) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$ 57,500
Estimated total machine hours	10,000 MHs
Predetermined overhead rate	\$ 5.75 per MH

The overhead applied to Job E is calculated as follows:

$$\begin{aligned}
 &\text{Overhead applied to a particular job} = \text{Predetermined overhead rate} \times \\
 &\text{Machine-hours incurred by the job} \\
 &= \$5.75 \text{ per MH} \times (3,400 \text{ MHs} + 2,000 \text{ MHs}) \\
 &= \$5.75 \text{ per MH} \times (5,400 \text{ MHs}) \\
 &= \$31,050
 \end{aligned}$$

Job E's manufacturing cost:

Direct materials	\$ 12,800
Direct labor cost	17,600
Manufacturing overhead applied	<u>31,050</u>

Total manufacturing cost \$ 61,450

The overhead applied to Job J is calculated as follows:

$$\begin{aligned} \text{Overhead applied to a particular job} &= \text{Predetermined overhead rate} \times \\ \text{Machine-hours incurred by the job} & \\ &= \$5.75 \text{ per MH} \times (1,600 \text{ MHs} + 3,000 \text{ MHs}) \\ &= \$5.75 \text{ per MH} \times (4,600 \text{ MHs}) \\ &= \$26,450 \end{aligned}$$

Job J's manufacturing cost:

Direct materials	\$ 7,000
Direct labor cost	7,700
Manufacturing overhead applied	26,450
Total manufacturing cost	<u><u>\$ 41,150</u></u>
Total manufacturing cost assigned to Job E	<u>\$ 61,450</u>
Total manufacturing cost assigned to Job J	41,150
Cost of goods sold	<u><u>\$ 102,600</u></u>

44) C

$$\begin{aligned} \text{Estimated total manufacturing overhead cost} &= \text{Estimated total fixed} \\ &\text{manufacturing overhead cost} + (\text{Estimated variable overhead cost per} \\ &\text{unit of the allocation base} \times \text{Estimated total amount of the allocation} \\ &\text{base}) = \$511,000 + (\$2.10 \text{ per direct labor-hour} \times 70,000 \text{ direct labor-} \\ &\text{hours}) = \$511,000 + \$147,000 = \$658,000 \end{aligned}$$

$$\begin{aligned} \text{Predetermined overhead rate} &= \text{Estimated total manufacturing} \\ &\text{overhead cost} \div \text{Estimated total amount of the allocation base} = \\ & \$658,000 \div 70,000 \text{ direct labor-hours} = \$9.40 \text{ per direct labor-hour} \end{aligned}$$

$$\begin{aligned} \text{Overhead applied to a particular job} &= \text{Predetermined overhead rate} \times \\ \text{Amount of the allocation base incurred by the job} &= \$9.40 \text{ per direct} \\ \text{labor-hour} \times 150 \text{ direct labor-hours} &= \$1,410 \end{aligned}$$

Direct materials	\$ 705
Direct labor cost	4,650
Manufacturing overhead applied	1,410
Total cost of Job K913	<u><u>\$ 6,765</u></u>

45) C

The first step is to calculate the estimated total overhead costs in the two departments.

Casting

Estimated fixed manufacturing overhead	\$ 9,800
Estimated variable manufacturing overhead (\$2.00 per MH × 2,000 MHs)	4,000
Estimated total manufacturing overhead cost	\$ 13,800

Finishing

Estimated fixed manufacturing overhead	\$ 6,300
Estimated variable manufacturing overhead (\$2.40 per MH × 3,000 MHs)	7,200
Estimated total manufacturing overhead cost	\$ 13,500

The second step is to combine the estimated manufacturing overhead costs in the two departments (\$13,800 + \$13,500 = \$27,300) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$ 27,300
Estimated total machine hours	5,000 MHs
Predetermined overhead rate	\$ 5.46 per MH

The overhead applied to Job L is calculated as follows:

$$\begin{aligned}
 &\text{Overhead applied to a particular job} = \text{Predetermined overhead rate} \times \\
 &\text{Machine-hours incurred by the job} \\
 &= \$5.46 \text{ per MH} \times (600 \text{ MHs} + 1,800 \text{ MHs}) \\
 &= \$5.46 \text{ per MH} \times (2,400 \text{ MHs}) \\
 &= \$13,104
 \end{aligned}$$

Job L's manufacturing cost:

Direct materials	\$ 9,600
Direct labor cost	6,200
Manufacturing overhead applied	13,104
Total manufacturing cost	\$ 28,904

46) B

The first step is to calculate the estimated total overhead costs in the two departments.

Forming

Estimated fixed manufacturing overhead	\$ 27,000
Estimated variable manufacturing overhead (\$1.10 per MH × 5,000 MHs)	5,500
Estimated total manufacturing overhead cost	<u>\$ 32,500</u>

Assembly

Estimated fixed manufacturing overhead	\$ 10,500
Estimated variable manufacturing overhead (\$2.80 per MH × 5,000 MHs)	14,000
Estimated total manufacturing overhead cost	<u>\$ 24,500</u>

The second step is to combine the estimated manufacturing overhead costs in the two departments (\$32,500 + \$24,500 = \$57,000) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$ 57,000
Estimated total machine hours	10,000 MHs
Predetermined overhead rate	\$ 5.70 per MH

The overhead applied to Job C is calculated as follows:

$$\begin{aligned}
 &\text{Overhead applied to a particular job} = \text{Predetermined overhead rate} \times \\
 &\text{Machine-hours incurred by the job} \\
 &= \$5.70 \text{ per MH} \times (3,400 \text{ MHs} + 2,000 \text{ MHs}) \\
 &= \$5.70 \text{ per MH} \times (5,400 \text{ MHs}) \\
 &= \$30,780
 \end{aligned}$$

Job C's manufacturing cost:

Direct materials	\$ 11,200
Direct labor cost	21,000
Manufacturing overhead applied	30,780
Total manufacturing cost	<u>\$ 62,980</u>

The selling price for Job C:

Total manufacturing cost	\$ 62,980
Markup (40%)	25,192
Selling price	<u>\$ 88,172</u>

47) D

The first step is to calculate the estimated total overhead costs in the two departments.

Machining

Estimated fixed manufacturing overhead	\$ 30,000
Estimated variable manufacturing overhead (\$2.00 per MH × 6,000 MHs)	12,000
Estimated total manufacturing overhead cost	\$ 42,000

Finishing

Estimated fixed manufacturing overhead	\$ 11,200
Estimated variable manufacturing overhead (\$2.40 per MH × 4,000 MHs)	9,600
Estimated total manufacturing overhead cost	\$ 20,800

The second step is to combine the estimated manufacturing overhead costs in the two departments (\$42,000 + \$20,800 = \$62,800) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$ 62,800
Estimated total machine hours	10,000 MHs
Predetermined overhead rate	\$ 6.28 per MH

The overhead applied to Job E is calculated as follows:

$$\begin{aligned}
 &\text{Overhead applied to a particular job} = \text{Predetermined overhead rate} \times \\
 &\text{Machine-hours incurred by the job} \\
 &= \$6.28 \text{ per MH} \times (4,100 \text{ MHs} + 1,600 \text{ MHs}) \\
 &= \$6.28 \text{ per MH} \times (5,700 \text{ MHs}) \\
 &= \$35,796
 \end{aligned}$$

Job E's manufacturing cost:

Direct materials	\$ 13,400
Direct labor cost	24,500
Manufacturing overhead applied	35,796
Total manufacturing cost	\$ 73,696

48) B

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$249,000 + (\$3.80 per machine-hour × 30,000 machine-hours) = \$249,000 + \$114,000 = \$363,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$363,000 ÷ 30,000 machine-hours = \$12.10 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$12.10 per machine-hour × 250 machine-hours = \$3,025

Direct materials	\$ 470
Direct labor	5,500
Manufacturing overhead applied	3,025
Total cost of Job X784	\$ 8,995
Total cost of Job X784 (a)	\$ 8,995
Number of units (b)	50
Unit product cost (a) ÷ (b)	\$ 179.90
Unit product cost for Job X784	\$ 179.90
Markup (30% × \$179.90)	53.97
Selling price	\$ 233.87

49) B

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$35,000 + (\$2.20 per machine-hour × 10,000 machine-hours) = \$35,000 + \$22,000 = \$57,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$57,000 ÷ 10,000 machine-hours = \$5.70 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$5.70 per machine-hour × 40 machine-hours = \$228

Direct materials	\$ 750
Direct labor	1,560
Manufacturing overhead applied	228
Total cost of Job T369	\$ 2,538
Total cost of Job T369 (a)	\$ 2,538
Number of units (b)	10
Unit product cost (a) ÷ (b)	\$ 253.80
Unit product cost for Job T369	\$ 253.80
Markup (20% × \$253.80)	50.76
Selling price	\$ 304.56

50) B

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$378,000 + (\$2.20 per direct labor-hour × 60,000 direct labor-hours) = \$378,000 + \$132,000 = \$510,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$510,000 ÷ 60,000 direct labor-hours = \$8.50 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$8.50 per direct labor-hour × 120 direct labor-hours = \$1,020

Direct materials	\$ 630
Direct labor	2,400
Manufacturing overhead applied	1,020
Total cost of Job M843	\$ 4,050
Total cost of Job M843 (a)	\$ 4,050
Number of units (b)	60
Unit product cost (a) ÷ (b)	\$ 67.50

51) A

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$155,000 + (\$3.40 per machine-hour × 50,000 machine-hours) = \$155,000 + \$170,000 = \$325,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$325,000 ÷ 50,000 machine-hours = \$6.50 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$6.50 per machine-hour × 100 machine-hours = \$650

Direct materials	\$ 645
Direct labor	2,300

Manufacturing overhead applied

650

Total cost of Job A881

\$ 3,595

52) A

Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$= \$99,000 + (\$2.10 \text{ per machine-hour} \times 18,000 \text{ machine-hours})$$

$$= \$99,000 + \$37,800 = \$136,800$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$136,800 \div 18,000 \text{ machine-hours} = \$7.60 \text{ per machine-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$7.60 \text{ per machine-hour} \times 90 \text{ machine-hours} = \684

Finishing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$= \$70,400 + (\$3.70 \text{ per direct labor-hour} \times 8,000 \text{ direct labor-hours})$$

$$= \$70,400 + \$29,600 = \$100,000$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$100,000 \div 8,000 \text{ direct labor-hours} = \$12.50 \text{ per direct labor-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$12.50 \text{ per direct labor-hour} \times 60 \text{ direct labor-hours} = \750

	Forming	Finishing	Total
Direct materials	\$ 940	\$ 350	\$ 1,290
Direct labor	\$ 960	\$ 1,920	2,880
Manufacturing overhead applied	\$ 684	\$ 750	1,434
Total cost of Job T617			\$ 5,604

53) A

Machining Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 9,400
Estimated variable manufacturing overhead (\$1.80 per MH × 2,000 MHs)	3,600
Estimated total manufacturing overhead cost (a)	<u>\$ 13,000</u>
Estimated total machine-hours (b)	2,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 6.50 per MH

Assembly Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 8,100
Estimated variable manufacturing overhead (\$2.40 per MH × 3,000 MHs)	7,200
Estimated total manufacturing overhead cost (a)	<u>\$ 15,300</u>
Estimated total machine-hours (b)	3,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 5.10 per MH

Manufacturing overhead applied to Job L:

Machining (\$6.50 per MH × 600 MHs)	\$ 3,900
Assembly (\$5.10 per MH × 1,800 MHs)	9,180
Total manufacturing overhead applied	<u><u>\$ 13,080</u></u>

The selling price for Job L would be calculated as follows:

Direct materials	\$ 7,100
Direct labor cost	6,700
Manufacturing overhead applied	13,080
Total manufacturing cost	<u>\$ 26,880</u>
Markup (50%)	13,440
Selling price	<u><u>\$ 40,320</u></u>

54) A

Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$= \$110,500 + (\$1.60 \text{ per machine-hour} \times 17,000 \text{ machine-hours})$$

$$= \$110,500 + \$27,200 = \$137,700$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$137,700 \div 17,000 \text{ machine-hours} = \$8.10 \text{ per machine-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$8.10 \text{ per machine-hour} \times 70 \text{ machine-hours} = \567

Finishing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$= \$78,300 + (\$3.30 \text{ per direct labor-hour} \times 9,000 \text{ direct labor-hours})$$

$$= \$78,300 + \$29,700 = \$108,000$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$108,000 \div 9,000 \text{ direct labor-hours} = \$12.00 \text{ per direct labor-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$12.00 \text{ per direct labor-hour} \times 50 \text{ direct labor-hours} = \600

	Forming	Finishing	Total
Direct materials	\$ 650	\$ 330	\$ 980
Direct labor	\$ 380	\$ 1,900	2,280
Manufacturing overhead applied	\$ 567	\$ 600	1,167
Total cost of Job A948			<u>\$ 4,427</u>
Total cost of Job A948	\$ 4,427.00		
Markup (\$4,427.00 × 40%)	1,770.80		
Selling price	<u>\$ 6,197.80</u>		

55) B

Casting Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 10,200
Estimated variable manufacturing overhead (\$1.20 per MH × 2,000 MHs)	2,400
Estimated total manufacturing overhead cost (a)	<u>\$ 12,600</u>
Estimated total machine-hours (b)	2,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 6.30 per MH

Finishing Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 19,200
Estimated variable manufacturing overhead (\$2.20 per MH × 8,000 MHs)	17,600
Estimated total manufacturing overhead cost (a)	<u>\$ 36,800</u>
Estimated total machine-hours (b)	8,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 4.60 per MH

Manufacturing overhead applied to Job F:

Casting (\$6.30 per MH × 1,400 MHs)	\$ 8,820
Finishing (\$4.60 per MH × 3,200 MHs)	14,720
Total manufacturing overhead applied	<u><u>\$ 23,540</u></u>

The selling price for Job F would be calculated as follows:

Direct materials	\$ 14,400
Direct labor cost	22,500
Manufacturing overhead applied	23,540
Total manufacturing cost	<u>\$ 60,440</u>
Markup (50%)	30,220
Selling price	<u><u>\$ 90,660</u></u>

56) D

Machining Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 4,700
Estimated variable manufacturing overhead (\$1.10 per MH × 1,000 MHs)	1,100
Estimated total manufacturing overhead cost (a)	<u>\$ 5,800</u>
Estimated total machine-hours (b)	1,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 5.80 per MH

Customizing Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 9,200
Estimated variable manufacturing overhead (\$2.60 per MH × 4,000 MHs)	10,400
Estimated total manufacturing overhead cost (a)	<u>\$ 19,600</u>
Estimated total machine-hours (b)	4,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 4.90 per MH

Manufacturing overhead applied to Job K:

Machining (\$5.80 per MH × 300 MHs)	\$ 1,740
Customizing (\$4.90 per MH × 2,400 MHs)	11,760
Total manufacturing overhead applied	<u><u>\$ 13,500</u></u>

57) D

Milling Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$= \$120,600 + (\$2.00 \text{ per machine-hour} \times 18,000 \text{ machine-hours})$$

$$= \$120,600 + \$36,000 = \$156,600$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$156,600 \div 18,000 \text{ machine-hours} = \$8.70 \text{ per machine-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$8.70 \text{ per machine-hour} \times 50 \text{ machine-hours} = \435

Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$= \$76,300 + (\$4.30 \text{ per direct labor-hour} \times 7,000 \text{ direct labor-hours})$$

$$= \$76,300 + \$30,100 = \$106,400$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$106,400 \div 7,000 \text{ direct labor-hours} = \$15.20 \text{ per direct labor-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$15.20 \text{ per direct labor-hour} \times 40 \text{ direct labor-hours} = \608

Overhead applied to Job T818

Milling Department	\$ 435
Assembly Department	608
Total	\$ 1,043

58) C

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$\begin{aligned} &= \$102,600 + (\$2.10 \text{ per machine-hour} \times 18,000 \text{ machine-hours}) \\ &= \$102,600 + \$37,800 = \$140,400 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$140,400 \div 18,000 \text{ machine-hours} = \$7.80 \text{ per machine-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$7.80 \text{ per machine-hour} \times 80 \text{ machine-hours} = \624

59) C

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$\begin{aligned} &= \$56,240 + (\$3.40 \text{ per direct labor-hour} \times 7,400 \text{ direct labor-hours}) \\ &= \$56,240 + \$25,160 = \$81,400 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$81,400 \div 7,400 \text{ direct labor-hours} = \$11.00 \text{ per direct labor-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$11.00 \text{ per direct labor-hour} \times 90 \text{ direct labor-hours} = \990

60) C

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$= \$68,600 + (\$3.80 \text{ per direct labor-hour} \times 7,000 \text{ direct labor-hours})$$

$$= \$68,600 + \$26,600 = \$95,200$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = \$95,200 ÷ 7,000 direct labor-hours = \$13.60 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$13.60 per direct labor-hour × 60 direct labor-hours = \$816

61) C

Forming Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 37,100
Estimated variable manufacturing overhead (\$1.70 per MH × 7,000 MHs)	11,900
Estimated total manufacturing overhead cost (a)	\$ 49,000
Estimated total machine-hours (b)	7,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 7.00 per MH

Assembly Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 9,000
Estimated variable manufacturing overhead (\$2.60 per MH × 3,000 MHs)	7,800
Estimated total manufacturing overhead cost (a)	\$ 16,800
Estimated total machine-hours (b)	3,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 5.60 per MH

Manufacturing overhead applied to Job B:

Forming (\$7.00 per MH × 4,800 MHs)	\$ 33,600
Assembly (\$5.60 per MH × 1,200 MHs)	6,720
Total manufacturing overhead applied	\$ 40,320

62) C

Milling Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$= \$118,400 + (\$2.10 \text{ per machine-hour} \times 16,000 \text{ machine-hours})$$

$$= \$118,400 + \$33,600 = \$152,000$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = \$152,000 ÷ 16,000 machine-hours = \$9.50 per machine-hour

63) D

Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$= \$57,400 + (\$3.40 \text{ per direct labor-hour} \times 7,000 \text{ direct labor-hours})$$

$$= \$57,400 + \$23,800 = \$81,200$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = \$81,200 ÷ 7,000 direct labor-hours = \$11.60 per direct labor-hour

64) B

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$= \$86,400 + (\$3.00 \text{ per direct labor-hour} \times 8,000 \text{ direct labor-hours})$$

$$= \$86,400 + \$24,000 = \$110,400$$

65) D

Casting Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 5,700
Estimated variable manufacturing overhead (\$1.30 per MH × 1,000 MHs)	1,300
Estimated total manufacturing overhead cost (a)	\$ 7,000
Estimated total machine-hours (b)	1,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 7.00 per MH

66) A

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$\begin{aligned} &= \$110,200 + (\$2.00 \text{ per machine-hour} \times 19,000 \text{ machine-hours}) \\ &= \$110,200 + \$38,000 = \$148,200 \end{aligned}$$

67) C

Assembly Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 4,600
Estimated variable manufacturing overhead (\$2.50 per MH × 2,000 MHs)	5,000
Estimated total manufacturing overhead cost (a)	\$ 9,600
Estimated total machine-hours (b)	2,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 4.80 per MH

68) B

Manufacturing overhead applied to Work in Process:

	Fabrication	Assembly	Total
Predetermined overhead rate (a)	\$ 30 per MH	\$ 12 per DLH	
Actual total amount of the allocation base (b)	40 MHs	25 DLHs	
Manufacturing overhead applied (a) × (b)	\$ 1,200	\$ 300	\$ 1,500

69) A

Manufacturing overhead applied = Predetermined overhead rate × Amount of the allocation base incurred

$$\$11,680 = 0.80 \times \text{Direct labor cost}$$

$$\text{Direct labor cost} = \$11,680 \div 0.80 = \$14,600$$

70) A

Manufacturing overhead applied = Predetermined overhead rate ×
Amount of the allocation base incurred

$$\$10,000 = 0.80 \times \text{Direct labor cost}$$

$$\text{Direct labor cost} = \$10,000 \div 0.80 = \$12,500$$

71) D

Predetermined overhead rate (a)	\$ 22.30
Actual activity level (b)	18,200
Manufacturing overhead applied (a) × (b)	\$ 405,860

72) A

Predetermined overhead rate	\$ 23.60
Actual activity level	28,100
Manufacturing overhead applied	\$ 663,160

73) B

Direct materials	\$ 2,412
Direct labor (74 direct labor-hours × \$21 per direct labor-hour)	1,554
Overhead (137 machine-hours × \$22 per machine-hour)	3,014
Total manufacturing cost for Job 910	\$ 6,980

74) C

Direct materials	\$ 3,193
Direct labor (21 direct labor-hours × \$12.00 per direct labor-hour)	252
Overhead (166 machine-hours × \$15.00 per machine-hour)	2,490
Total manufacturing cost for Job 910	\$ 5,935

75) C

Department A manufacturing overhead = Predetermined overhead rate ×
Amount of the allocation base incurred

$$\$80,000 = 200\% \times \text{Direct labor}$$

$$\text{Direct labor} = \$40,000$$

Department B manufacturing overhead = Predetermined overhead rate
× Amount of the allocation base incurred
= 50% × \$60,000 = \$30,000

Department A	Department B	Total
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Direct materials	\$ 50,000	\$ 10,000	
Direct labor	40,000	60,000	
Manufacturing overhead	80,000	30,000	
Total product cost	<u>\$ 170,000</u>	<u>\$ 100,000</u>	<u>\$ 270,000</u>

76) C

Direct materials	\$ 2,070
Direct labor (35 direct labor-hours × \$18 per direct labor-hour)	630
Overhead (243 machine-hours × \$22 per machine-hour)	5,346
Total manufacturing cost for Job 450	<u>\$ 8,046</u>

77) D

Direct materials	\$ 3,044
Direct labor (46 direct labor-hours × \$15.00 per direct labor-hour)	690
Overhead (104 machine-hours × \$13.00 per machine-hour)	1,352
Total manufacturing cost for Job 450	<u>\$ 5,086</u>

78) C

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$416,000 + (\$3.10 per machine-hour × 80,000 machine-hours) = \$416,000 + \$248,000 = \$664,000

79) A

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$416,000 + (\$3.10 per machine-hour × 80,000 machine-hours) = \$416,000 + \$248,000 = \$664,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$664,000 ÷ 80,000 machine-hours = \$8.30 per machine-hour

80) A

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$36,000 + (\$2.80 per direct labor-hour × 10,000 direct labor-hours) = \$36,000 + \$28,000 = \$64,000

81) B

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$36,000 + (\$2.80 per direct labor-hour × 10,000 direct labor-hours) = \$36,000 + \$28,000 = \$64,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$64,000 ÷ 10,000 direct labor-hours = \$6.40 per direct labor-hour

82) D

The first step is to calculate the estimated total overhead costs in the two departments.

Machining

Estimated fixed manufacturing overhead	\$ 39,200
Estimated variable manufacturing overhead (\$1.90 per MH × 7,000 MHs)	13,300
Estimated total manufacturing overhead cost	<u>\$ 52,500</u>

Assembly

Estimated fixed manufacturing overhead	\$ 6,600
Estimated variable manufacturing overhead (\$2.10 per MH × 3,000 MHs)	6,300
Estimated total manufacturing overhead cost	<u>\$ 12,900</u>

The second step is to combine the estimated manufacturing overhead costs in the two departments (\$52,500 + \$12,900 = \$65,400) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$ 65,400
Estimated total machine hours	10,000 MHs
Predetermined overhead rate	\$ 6.54 per MH

83) C

The first step is to calculate the estimated total overhead costs in the two departments.

Machining

Estimated fixed manufacturing overhead	\$ 39,200
Estimated variable manufacturing overhead (\$1.90 per MH × 7,000 MHs)	13,300
Estimated total manufacturing overhead cost	<u>\$ 52,500</u>

Assembly

Estimated fixed manufacturing overhead	\$ 6,600
Estimated variable manufacturing overhead (\$2.10 per MH × 3,000 MHs)	6,300
Estimated total manufacturing overhead cost	<u>\$ 12,900</u>

The second step is to combine the estimated manufacturing overhead costs in the two departments ($\$52,500 + \$12,900 = \$65,400$) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$ 65,400
Estimated total machine hours	10,000 MHs
Predetermined overhead rate	\$ 6.54 per MH

The overhead applied to Job B is calculated as follows:

$$\begin{aligned}
 \text{Overhead applied to a particular job} &= \text{Predetermined overhead rate} \times \\
 &\text{Machine-hours incurred by the job} \\
 &= \$6.54 \text{ per MH} \times (4,800 \text{ MHs} + 1,200 \text{ MHs}) \\
 &= \$6.54 \text{ per MH} \times (6,000 \text{ MHs}) \\
 &= \$39,240
 \end{aligned}$$

84) B

The first step is to calculate the estimated total overhead costs in the two departments.

Machining

Estimated fixed manufacturing overhead	\$ 39,200
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Estimated variable manufacturing overhead (\$1.90 per MH × 7,000 MHs)	13,300
Estimated total manufacturing overhead cost	<u>\$ 52,500</u>

Assembly

Estimated fixed manufacturing overhead	\$ 6,600
Estimated variable manufacturing overhead (\$2.10 per MH × 3,000 MHs)	6,300
Estimated total manufacturing overhead cost	<u>\$ 12,900</u>

The second step is to combine the estimated manufacturing overhead costs in the two departments (\$52,500 + \$12,900 = \$65,400) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$ 65,400
Estimated total machine hours	10,000 MHs
Predetermined overhead rate	\$ 6.54 per MH

The overhead applied to Job G is calculated as follows:

$$\begin{aligned}
 &\text{Overhead applied to a particular job} = \text{Predetermined overhead rate} \times \\
 &\text{Machine-hours incurred by the job} \\
 &= \$6.54 \text{ per MH} \times (2,200 \text{ MHs} + 1,800 \text{ MHs}) \\
 &= \$6.54 \text{ per MH} \times (4,000 \text{ MHs}) \\
 &= \$26,160
 \end{aligned}$$

85) D

Estimated total fixed manufacturing overhead (a)	\$ 310,000
Estimated activity level (b)	20,000
Predetermined overhead rate (a) ÷ (b)	<u>\$ 15.50</u>

86) D

Estimated total fixed manufacturing overhead (a)	\$ 310,000
Estimated activity level (b)	20,000
Predetermined overhead rate (a) ÷ (b)	<u>\$ 15.50</u>
Actual activity level	18,300
Manufacturing overhead applied	<u>\$ 283,650</u>

87) B

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$90,000 + (\$3.70 per direct labor-hour × 50,000 direct labor-hours) = \$90,000 + \$185,000 = \$275,000

88) B

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$90,000 + (\$3.70 per direct labor-hour × 50,000 direct labor-hours) = \$90,000 + \$185,000 = \$275,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$275,000 ÷ 50,000 direct labor-hours = \$5.50 per direct labor-hour

89) C

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$90,000 + (\$3.70 per direct labor-hour × 50,000 direct labor-hours) = \$90,000 + \$185,000 = \$275,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$275,000 ÷ 50,000 direct labor-hours = \$5.50 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$5.50 per direct labor-hour × 150 direct labor-hours = \$825

90) D

Estimated total fixed manufacturing overhead (a)	\$ 738,000
Estimated activity level (b)	30,000
Predetermined overhead rate (a) ÷ (b)	<u>\$ 24.60</u>

91) C

Estimated total fixed manufacturing overhead (a)	\$ 738,000
Estimated activity level (b)	30,000
Predetermined overhead rate (a) ÷ (b)	<u>\$ 24.60</u>
Actual activity level	31,500
Manufacturing overhead applied	<u>\$ 774,900</u>

92) D

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$312,000 + (\$2.10 per machine-hour × 80,000 machine-hours) = \$312,000 + \$168,000 = \$480,000

93) D

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$312,000 + (\$2.10 per machine-hour × 80,000 machine-hours) = \$312,000 + \$168,000 = \$480,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$480,000 ÷ 80,000 machine-hours = \$6.00 per machine-hour

94) C

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$312,000 + (\$2.10 per machine-hour × 80,000 machine-hours) = \$312,000 + \$168,000 = \$480,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$480,000 ÷ 80,000 machine-hours = \$6.00 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$6.00 per machine-hour × 200 machine-hours = \$1,200

95) D

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$96,000 + (\$3.00 per direct labor-hour × 40,000 direct labor-hours) = \$96,000 + \$120,000 = \$216,000

96) D

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$96,000 + (\$3.00 per direct labor-hour × 40,000 direct labor-hours) = \$96,000 + \$120,000 = \$216,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$216,000 ÷ 40,000 direct labor-hours = \$5.40 per direct labor-hour

97) C

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$96,000 + (\$3.00 per direct labor-hour × 40,000 direct labor-hours) = \$96,000 + \$120,000 = \$216,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$216,000 ÷ 40,000 direct labor-hours = \$5.40 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$5.40 per direct labor-hour × 100 direct labor-hours = \$540

98) D

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$235,600 + (\$2.00 per direct labor-hour × 76,000 direct labor-hours) = \$235,600 + \$152,000 = \$387,600

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$387,600 ÷ 76,000 direct labor-hours = \$5.10 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$5.10 per direct labor-hour × 100 direct labor-hours = \$510

Direct materials	\$ 870
Direct labor	7,600
Manufacturing overhead applied	510
Total cost of Job P951	<u><u>\$ 8,980</u></u>

99) D

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$96,000 + (\$3.00 per direct labor-hour × 40,000 direct labor-hours) = \$96,000 + \$120,000 = \$216,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$216,000 ÷ 40,000 direct labor-hours = \$5.40 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$5.40 per direct labor-hour × 100 direct labor-hours = \$540

Direct materials	\$ 755
Direct labor	4,000
Manufacturing overhead applied	540
Total cost of Job P951	<u>\$ 5,295</u>

100) B

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$492,000 + (\$6.00 per direct labor-hour × 82,000 direct labor-hours) = \$492,000 + \$492,000 = \$984,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$984,000 ÷ 82,000 direct labor-hours = \$12.00 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$12.00 per direct labor-hour × 100 direct labor-hours = \$1,200

Direct materials	\$ 600
Direct labor	8,200
Manufacturing overhead applied	1,200
Total cost of Job P951	<u>\$ 10,000</u>
Total cost of Job P951 (a)	<u>\$ 10,000</u>

Number of units (b)	20
Unit product cost (a) ÷ (b)	\$ 500.00

101) B

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$96,000 + (\$3.00 per direct labor-hour × 40,000 direct labor-hours) = \$96,000 + \$120,000 = \$216,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$216,000 ÷ 40,000 direct labor-hours = \$5.40 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$5.40 per direct labor-hour × 100 direct labor-hours = \$540

Direct materials	\$ 755
Direct labor	4,000
Manufacturing overhead applied	540
Total cost of Job P951	<u>\$ 5,295</u>
Total cost of Job P951 (a)	<u>\$ 5,295</u>
Number of units (b)	20
Unit product cost (a) ÷ (b)	\$ 264.75

102) C

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$160,000 + (\$3.40 per direct labor-hour × 80,000 direct labor-hours) = \$160,000 + \$272,000 = \$432,000

103) D

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base \times Estimated total amount of the allocation base) = \$160,000 + (\$3.40 per direct labor-hour \times 80,000 direct labor-hours) = \$160,000 + \$272,000 = \$432,000

Predetermined overhead rate = Estimated total manufacturing overhead cost \div Estimated total amount of the allocation base = \$432,000 \div 80,000 direct labor-hours = \$5.40 per direct labor-hour

104) B

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base \times Estimated total amount of the allocation base) = \$160,000 + (\$3.40 per direct labor-hour \times 80,000 direct labor-hours) = \$160,000 + \$272,000 = \$432,000

Predetermined overhead rate = Estimated total manufacturing overhead cost \div Estimated total amount of the allocation base = \$432,000 \div 80,000 direct labor-hours = \$5.40 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate \times Amount of the allocation base incurred by the job = \$5.40 per direct labor-hour \times 250 direct labor-hours = \$1,350

105) A

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$160,000 + (\$3.40 per direct labor-hour × 80,000 direct labor-hours) = \$160,000 + \$272,000 = \$432,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$432,000 ÷ 80,000 direct labor-hours = \$5.40 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$5.40 per direct labor-hour × 250 direct labor-hours = \$1,350

Direct materials	\$ 715
Direct labor	9,000
Manufacturing overhead applied	1,350
Total cost of Job A578	\$ 11,065

106) A

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$176,000 + (\$2.20 per machine-hour × 20,000 machine-hours) = \$176,000 + \$44,000 = \$220,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$220,000 ÷ 20,000 machine-hours = \$11.00 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$11.00 per machine-hour × 200 machine-hours = \$2,200

107) B

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$176,000 + (\$2.20 per machine-hour × 20,000 machine-hours) = \$176,000 + \$44,000 = \$220,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$220,000 ÷ 20,000 machine-hours = \$11.00 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$11.00 per machine-hour × 200 machine-hours = \$2,200

Direct materials	\$ 540
Direct labor	7,200
Manufacturing overhead applied	2,200
Total cost of Job P505	\$ 9,940

108) C

The first step is to calculate the estimated total overhead costs in the two departments.

Molding

Estimated fixed manufacturing overhead	\$ 13,000
Estimated variable manufacturing overhead (\$3.00 per MH × 3,250 MHs)	9,750
Estimated total manufacturing overhead cost	\$ 22,750

Finishing

Estimated fixed manufacturing overhead	\$ 4,400
Estimated variable manufacturing overhead (\$6.00 per MH × 1,750 MHs)	10,500
Estimated total manufacturing overhead cost	\$ 14,900

The second step is to combine the estimated manufacturing overhead costs in the two departments (\$22,750 + \$14,900 = \$37,650) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$ 37,650
Estimated total machine hours	5,000 MHs

Predetermined overhead rate \$ 7.53 per MH

The overhead applied to Job M is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate ×
Machine-hours incurred by the job

$$\begin{aligned} &= \$7.53 \text{ per MH} \times (2,000 \text{ MHs} + 500 \text{ MHs}) \\ &= \$7.53 \text{ per MH} \times (2,500 \text{ MHs}) \\ &= \$18,825 \end{aligned}$$

Job M's manufacturing cost:

Direct materials	\$ 9,400
Direct labor cost	9,700
Manufacturing overhead applied	18,825
Total manufacturing cost	<u><u>\$ 37,925</u></u>

109) C

The first step is to calculate the estimated total overhead costs in the two departments.

Molding

Estimated fixed manufacturing overhead	\$ 19,600
Estimated variable manufacturing overhead (\$1.10 per MH × 4,000 MHs)	4,400
Estimated total manufacturing overhead cost	<u><u>\$ 24,000</u></u>

Finishing

Estimated fixed manufacturing overhead	\$ 2,400
Estimated variable manufacturing overhead (\$2.10 per MH × 1,000 MHs)	2,100
Estimated total manufacturing overhead cost	<u><u>\$ 4,500</u></u>

The second step is to combine the estimated manufacturing overhead costs in the two departments (\$24,000 + \$4,500 = \$28,500) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$ 28,500
Estimated total machine hours	5,000 MHs
Predetermined overhead rate	\$ 5.70 per MH

The overhead applied to Job M is calculated as follows:

Overhead applied to a particular job = Predetermined overhead rate ×
Machine-hours incurred by the job

$$\begin{aligned}
 &= \$5.70 \text{ per MH} \times (1,300 \text{ MHs} + 600 \text{ MHs}) \\
 &= \$5.70 \text{ per MH} \times (1,900 \text{ MHs}) \\
 &= \$10,830
 \end{aligned}$$

Job M's manufacturing cost:

Direct materials	\$ 7,500
Direct labor cost	7,400
Manufacturing overhead applied	10,830
Total manufacturing cost	<u><u>\$ 25,730</u></u>

110) B

The first step is to calculate the estimated total overhead costs in the two departments.

Molding

Estimated fixed manufacturing overhead	\$ 27,000
Estimated variable manufacturing overhead (\$1.00 per MH × 6,500 MHs)	6,500
Estimated total manufacturing overhead cost	<u><u>\$ 33,500</u></u>

Finishing

Estimated fixed manufacturing overhead	\$ 6,500
Estimated variable manufacturing overhead (\$2.00 per MH × 3,500 MHs)	7,000
Estimated total manufacturing overhead cost	<u><u>\$ 13,500</u></u>

The second step is to combine the estimated manufacturing overhead costs in the two departments (\$33,500 + \$13,500 = \$47,000) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$ 47,000
Estimated total machine hours	10,000 MHs
Predetermined overhead rate	\$ 4.70 per MH

The overhead applied to Job A is calculated as follows:

$$\begin{aligned}
 &\text{Overhead applied to a particular job} = \text{Predetermined overhead rate} \times \\
 &\text{Machine-hours incurred by the job} \\
 &= \$4.70 \text{ per MH} \times (2,500 \text{ MHs} + 2,500 \text{ MHs}) \\
 &= \$4.70 \text{ per MH} \times (5,000 \text{ MHs}) \\
 &= \$23,500
 \end{aligned}$$

Job A's manufacturing cost:

Direct materials	\$ 17,600
Direct labor cost	24,500
Manufacturing overhead applied	23,500
Total manufacturing cost	<u>\$ 65,600</u>

The selling price for Job A:

Total manufacturing cost	\$ 65,600
Markup (40%)	26,240
Selling price	<u>\$ 91,840</u>

111) B

The first step is to calculate the estimated total overhead costs in the two departments.

Molding

Estimated fixed manufacturing overhead	\$ 19,600
Estimated variable manufacturing overhead (\$1.10 per MH × 4,000 MHs)	4,400
Estimated total manufacturing overhead cost	<u>\$ 24,000</u>

Finishing

Estimated fixed manufacturing overhead	\$ 2,400
Estimated variable manufacturing overhead (\$2.10 per MH × 1,000 MHs)	2,100
Estimated total manufacturing overhead cost	<u>\$ 4,500</u>

The second step is to combine the estimated manufacturing overhead costs in the two departments (\$24,000 + \$4,500 = \$28,500) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$ 28,500
Estimated total machine hours	5,000 MHs

Predetermined overhead rate

\$ 5.70 per MH

The overhead applied to Job A is calculated as follows:

$$\begin{aligned}\text{Overhead applied to a particular job} &= \text{Predetermined overhead rate} \times \\ &\text{Machine-hours incurred by the job} \\ &= \$5.70 \text{ per MH} \times (2,700 \text{ MHs} + 400 \text{ MHs}) \\ &= \$5.70 \text{ per MH} \times (3,100 \text{ MHs}) \\ &= \$17,670\end{aligned}$$

Job A's manufacturing cost:

Direct materials	\$ 13,600
Direct labor cost	20,700
Manufacturing overhead applied	17,670
Total manufacturing cost	<u>\$ 51,970</u>

The selling price for Job A:

Total manufacturing cost	\$ 51,970
Markup (40%)	20,788
Selling price	<u>\$ 72,758</u>

112) A

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base \times Estimated total amount of the allocation base) = \$497,000 + (\$2.40 per direct labor-hour \times 70,000 direct labor-hours) = \$497,000 + \$168,000 = \$665,000

113) C

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base \times Estimated total amount of the allocation base) = \$497,000 + (\$2.40 per direct labor-hour \times 70,000 direct labor-hours) = \$497,000 + \$168,000 = \$665,000

Predetermined overhead rate = Estimated total manufacturing overhead cost \div Estimated total amount of the allocation base = \$665,000 \div 70,000 direct labor-hours = \$9.50 per direct labor-hour

114) C

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$497,000 + (\$2.40 per direct labor-hour × 70,000 direct labor-hours) = \$497,000 + \$168,000 = \$665,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$665,000 ÷ 70,000 direct labor-hours = \$9.50 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$9.50 per direct labor-hour × 80 direct labor-hours = \$760

115) A

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$497,000 + (\$2.40 per direct labor-hour × 70,000 direct labor-hours) = \$497,000 + \$168,000 = \$665,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$665,000 ÷ 70,000 direct labor-hours = \$9.50 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$9.50 per direct labor-hour × 80 direct labor-hours = \$760

Direct materials	\$ 950
Direct labor	2,720
Manufacturing overhead applied	760
Total cost of Job T498	\$ 4,430

116) D

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$497,000 + (\$2.40 per direct labor-hour × 70,000 direct labor-hours) = \$497,000 + \$168,000 = \$665,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$665,000 ÷ 70,000 direct labor-hours = \$9.50 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$9.50 per direct labor-hour × 80 direct labor-hours = \$760

Direct materials	\$ 950
Direct labor	2,720
Manufacturing overhead applied	760
Total cost of Job T498	\$ 4,430
Total cost of Job T498 (a)	\$ 4,430
Number of units (b)	40
Unit product cost (a) ÷ (b)	\$ 110.75

117) C

The first step is to calculate the estimated total overhead costs in the two departments.

Machining

Estimated fixed manufacturing overhead	\$ 4,700
Estimated variable manufacturing overhead (\$1.20 per MH × 1,000 MHs)	1,200
Estimated total manufacturing overhead cost	\$ 5,900

Assembly

Estimated fixed manufacturing overhead	\$ 10,800
Estimated variable manufacturing overhead (\$2.20 per MH × 4,000 MHs)	8,800
Estimated total manufacturing overhead cost	\$ 19,600

The second step is to combine the estimated manufacturing overhead costs in the two departments ($\$5,900 + \$19,600 = \$25,500$) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$ 25,500
Estimated total machine hours	5,000 MHs
Predetermined overhead rate	\$ 5.10 per MH

The overhead applied to Job F is calculated as follows:

$$\begin{aligned}
 &\text{Overhead applied to a particular job} = \text{Predetermined overhead rate} \times \\
 &\text{Machine-hours incurred by the job} \\
 &= \$5.10 \text{ per MH} \times (700 \text{ MHs} + 1,600 \text{ MHs}) \\
 &= \$5.10 \text{ per MH} \times (2,300 \text{ MHs}) \\
 &= \$11,730
 \end{aligned}$$

Job F's manufacturing cost:

Direct materials	\$ 13,000
Direct labor cost	20,400
Manufacturing overhead applied	11,730
Total manufacturing cost	<u><u>\$ 45,130</u></u>

118) B

The first step is to calculate the estimated total overhead costs in the two departments.

Machining

Estimated fixed manufacturing overhead	\$ 4,700
Estimated variable manufacturing overhead ($\$1.20 \text{ per MH} \times 1,000 \text{ MHs}$)	1,200
Estimated total manufacturing overhead cost	<u><u>\$ 5,900</u></u>

Assembly

Estimated fixed manufacturing overhead	\$ 10,800
Estimated variable manufacturing overhead ($\$2.20 \text{ per MH} \times 4,000 \text{ MHs}$)	8,800
Estimated total manufacturing overhead cost	<u><u>\$ 19,600</u></u>

The second step is to combine the estimated manufacturing overhead costs in the two departments ($\$5,900 + \$19,600 = \$25,500$) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$ 25,500
Estimated total machine hours	5,000 MHs
Predetermined overhead rate	\$ 5.10 per MH

The overhead applied to Job M is calculated as follows:

$$\begin{aligned}
 &\text{Overhead applied to a particular job} = \text{Predetermined overhead rate} \times \\
 &\text{Machine-hours incurred by the job} \\
 &= \$5.10 \text{ per MH} \times (300 \text{ MHs} + 2,400 \text{ MHs}) \\
 &= \$5.10 \text{ per MH} \times (2,700 \text{ MHs}) \\
 &= \$13,770
 \end{aligned}$$

Job M's manufacturing cost:

Direct materials	\$ 7,400
Direct labor cost	8,800
Manufacturing overhead applied	13,770
Total manufacturing cost	<u>\$ 29,970</u>

The selling price for Job M:

Total manufacturing cost	\$ 29,970
Markup (40%)	11,988
Selling price	<u>\$ 41,958</u>

119) A

$$\begin{aligned}
 &\text{Estimated total manufacturing overhead cost} = \text{Estimated total fixed} \\
 &\text{manufacturing overhead cost} + (\text{Estimated variable overhead cost per} \\
 &\text{unit of the allocation base} \times \text{Estimated total amount of the allocation} \\
 &\text{base}) = \$33,000 + (\$2.50 \text{ per direct labor-hour} \times 10,000 \text{ direct labor-} \\
 &\text{hours}) = \$33,000 + \$25,000 = \$58,000
 \end{aligned}$$

$$\begin{aligned}
 &\text{Predetermined overhead rate} = \text{Estimated total manufacturing} \\
 &\text{overhead cost} \div \text{Estimated total amount of the allocation base} = \$58,000 \\
 &\div 10,000 \text{ direct labor-hours} = \$5.80 \text{ per direct labor-hour}
 \end{aligned}$$

$$\begin{aligned}
 &\text{Overhead applied to a particular job} = \text{Predetermined overhead rate} \times \\
 &\text{Amount of the allocation base incurred by the job} = \$5.80 \text{ per direct} \\
 &\text{labor-hour} \times 140 \text{ direct labor-hours} = \$812
 \end{aligned}$$

120) C

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$33,000 + (\$2.50 per direct labor-hour × 10,000 direct labor-hours) = \$33,000 + \$25,000 = \$58,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$58,000 ÷ 10,000 direct labor-hours = \$5.80 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$5.80 per direct labor-hour × 140 direct labor-hours = \$812

Direct materials	\$ 455
Direct labor	5,320
Manufacturing overhead applied	812
Total cost of Job K332	\$ 6,587

121) A

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$33,000 + (\$2.50 per direct labor-hour × 10,000 direct labor-hours) = \$33,000 + \$25,000 = \$58,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$58,000 ÷ 10,000 direct labor-hours = \$5.80 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$5.80 per direct labor-hour × 140 direct labor-hours = \$812

Direct materials	\$ 455
Direct labor	5,320
Manufacturing overhead applied	812
Total cost of Job K332	\$ 6,587
Total cost of Job K332 (a)	\$ 6,587

Number of units (b)	70
Unit product cost (a) ÷ (b)	\$ 94.10

122) A

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$162,000 + (\$2.80 per direct labor-hour × 60,000 direct labor-hours) = \$162,000 + \$168,000 = \$330,000

123) A

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$162,000 + (\$2.80 per direct labor-hour × 60,000 direct labor-hours) = \$162,000 + \$168,000 = \$330,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$330,000 ÷ 60,000 direct labor-hours = \$5.50 per direct labor-hour

124) D

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$162,000 + (\$2.80 per direct labor-hour × 60,000 direct labor-hours) = \$162,000 + \$168,000 = \$330,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$330,000 ÷ 60,000 direct labor-hours = \$5.50 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$5.50 per direct labor-hour × 50 direct labor-hours = \$275

125) B

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$162,000 + (\$2.80 per direct labor-hour × 60,000 direct labor-hours) = \$162,000 + \$168,000 = \$330,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$330,000 ÷ 60,000 direct labor-hours = \$5.50 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$5.50 per direct labor-hour × 50 direct labor-hours = \$275

Direct materials	\$ 920
Direct labor	1,400
Manufacturing overhead applied	275
Total cost of Job K818	\$ 2,595

126) B

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$162,000 + (\$2.80 per direct labor-hour × 60,000 direct labor-hours) = \$162,000 + \$168,000 = \$330,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$330,000 ÷ 60,000 direct labor-hours = \$5.50 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$5.50 per direct labor-hour × 50 direct labor-hours = \$275

Direct materials	\$ 920
Direct labor	1,400
Manufacturing overhead applied	275
Total cost of Job K818	\$ 2,595
Total cost of Job K818 (a)	\$ 2,595

Number of units (b)	10
Unit product cost (a) ÷ (b)	\$ 259.50

127) A

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$162,000 + (\$2.80 per direct labor-hour × 60,000 direct labor-hours) = \$162,000 + \$168,000 = \$330,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$330,000 ÷ 60,000 direct labor-hours = \$5.50 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$5.50 per direct labor-hour × 50 direct labor-hours = \$275

Direct materials	\$ 920
Direct labor	1,400
Manufacturing overhead applied	275
Total cost of Job K818	<u>\$ 2,595</u>
Total cost of Job K818 (a)	<u>\$ 2,595</u>
Number of units (b)	10
Unit product cost (a) ÷ (b)	\$ 259.50
Unit product cost for Job K818	\$ 259.50
Markup (40% × \$259.50)	103.80
Selling price	<u><u>\$ 363.30</u></u>

128) A

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$252,000 + (\$2.10 per machine-hour × 30,000 machine-hours) = \$252,000 + \$63,000 = \$315,000

129) B

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base \times Estimated total amount of the allocation base) = \$252,000 + (\$2.10 per machine-hour \times 30,000 machine-hours) = \$252,000 + \$63,000 = \$315,000

Predetermined overhead rate = Estimated total manufacturing overhead cost \div Estimated total amount of the allocation base = \$315,000 \div 30,000 machine-hours = \$10.50 per machine-hour

130) A

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base \times Estimated total amount of the allocation base) = \$660,000 + (\$6 per machine-hour \times 33,000 machine-hours) = \$660,000 + \$198,000 = \$858,000

Predetermined overhead rate = Estimated total manufacturing overhead cost \div Estimated total amount of the allocation base = \$858,000 \div 33,000 machine-hours = \$26 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate \times Amount of the allocation base incurred by the job = \$26.00 per machine-hour \times 40 machine-hours = \$1,040

131) A

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$252,000 + (\$2.10 per machine-hour × 30,000 machine-hours) = \$252,000 + \$63,000 = \$315,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$315,000 ÷ 30,000 machine-hours = \$10.50 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$10.50 per machine-hour × 30 machine-hours = \$315

132) D

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$455,000 + (\$5 per machine-hour × 32,500 machine-hours) = \$455,000 + \$162,500 = \$617,500

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$617,500 ÷ 32,500 machine-hours = \$19 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$19 per machine-hour × 40 machine-hours = \$760

Direct materials	\$ 710
Direct labor	1,420
Manufacturing overhead applied	760
Total cost of Job T687	\$ 2,890

133) D

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$252,000 + (\$2.10 per machine-hour × 30,000 machine-hours) = \$252,000 + \$63,000 = \$315,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$315,000 ÷ 30,000 machine-hours = \$10.50 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$10.50 per machine-hour × 30 machine-hours = \$315

Direct materials	\$ 675
Direct labor	1,050
Manufacturing overhead applied	315
Total cost of Job T687	\$ 2,040

134) D

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$156,000 + (\$3 per machine-hour × 31,200 machine-hours) = \$156,000 + \$93,600 = \$249,600

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$249,600 ÷ 31,200 machine-hours = \$8 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$8 per machine-hour × 30 machine-hours = \$240

Direct materials	\$ 665
Direct labor	1,330
Manufacturing overhead applied	240
Total cost of Job T687	\$ 2,235
Total cost of Job T687 (a)	\$ 2,235

Number of units (b)	10
Unit product cost (a) ÷ (b)	\$ 223.50

135) D

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$252,000 + (\$2.10 per machine-hour × 30,000 machine-hours) = \$252,000 + \$63,000 = \$315,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$315,000 ÷ 30,000 machine-hours = \$10.50 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$10.50 per machine-hour × 30 machine-hours = \$315

Direct materials	\$ 675
Direct labor	1,050
Manufacturing overhead applied	315
Total cost of Job T687	<u>\$ 2,040</u>
Total cost of Job T687 (a)	<u>\$ 2,040</u>
Number of units (b)	10
Unit product cost (a) ÷ (b)	\$ 204.00

136) C

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$352,000 + (\$3.00 per machine-hour × 32,000 machine-hours) = \$352,000 + \$96,000 = \$448,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$448,000 ÷ 32,000 machine-hours = \$14 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$14 per machine-hour × 40 machine-hours = \$560

Direct materials	\$ 675
Direct labor	1,350
Manufacturing overhead applied	560
Total cost of Job T687	\$ 2,585
Total cost of Job T687 (a)	\$ 2,585
Number of units (b)	10
Unit product cost (a) ÷ (b)	\$ 258.50
Unit product cost for Job T687	\$ 258.50
Markup (40% × \$258.50)	103.40
Selling price	\$ 361.90

137) C

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$252,000 + (\$2.10 per machine-hour × 30,000 machine-hours) = \$252,000 + \$63,000 = \$315,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$315,000 ÷ 30,000 machine-hours = \$10.50 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$10.50 per machine-hour × 30 machine-hours = \$315

Direct materials	\$ 675
Direct labor	1,050
Manufacturing overhead applied	315
Total cost of Job T687	\$ 2,040
Total cost of Job T687 (a)	\$ 2,040
Number of units (b)	10
Unit product cost (a) ÷ (b)	\$ 204.00
Unit product cost for Job T687	\$ 204.00
Markup (40% × \$204.00)	81.60
Selling price	\$ 285.60

138) A

The first step is to calculate the estimated total overhead costs in the two departments.

Casting

Estimated fixed manufacturing overhead	\$ 27,500
Estimated variable manufacturing overhead (\$1.70 per MH × 5,000 MHs)	8,500
Estimated total manufacturing overhead cost	\$ 36,000

Customizing

Estimated fixed manufacturing overhead	\$ 10,500
Estimated variable manufacturing overhead (\$2.60 per MH × 5,000 MHs)	13,000
Estimated total manufacturing overhead cost	\$ 23,500

The second step is to combine the estimated manufacturing overhead costs in the two departments (\$36,000 + \$23,500 = \$59,500) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$ 59,500
Estimated total machine hours	10,000 MHs
Predetermined overhead rate	\$ 5.95 per MH

The overhead applied to Job C is calculated as follows:

$$\begin{aligned}
 \text{Overhead applied to a particular job} &= \text{Predetermined overhead rate} \times \\
 \text{Machine-hours incurred by the job} & \\
 &= \$5.95 \text{ per MH} \times (3,400 \text{ MHs} + 2,000 \text{ MHs}) \\
 &= \$5.95 \text{ per MH} \times (5,400 \text{ MHs}) \\
 &= \$32,130
 \end{aligned}$$

139) A

The first step is to calculate the estimated total overhead costs in the two departments.

Casting

Estimated fixed manufacturing overhead	\$ 27,500
Estimated variable manufacturing overhead (\$1.70 per MH × 5,000 MHs)	8,500
Estimated total manufacturing overhead cost	\$ 36,000

Customizing

Estimated fixed manufacturing overhead	\$ 10,500
Estimated variable manufacturing overhead (\$2.60 per MH × 5,000 MHs)	13,000
Estimated total manufacturing overhead cost	\$ 23,500

The second step is to combine the estimated manufacturing overhead costs in the two departments (\$36,000 + \$23,500 = \$59,500) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$ 59,500
Estimated total machine hours	10,000 MHs
Predetermined overhead rate	\$ 5.95 per MH

The overhead applied to Job G is calculated as follows:

$$\begin{aligned}\text{Overhead applied to a particular job} &= \text{Predetermined overhead rate} \times \\ \text{Machine-hours incurred by the job} & \\ &= \$5.95 \text{ per MH} \times (1,600 \text{ MHs} + 3,000 \text{ MHs}) \\ &= \$5.95 \text{ per MH} \times (4,600 \text{ MHs}) \\ &= \$27,370\end{aligned}$$

Job G's manufacturing cost:

Direct materials	\$ 6,800
Direct labor cost	7,900
Manufacturing overhead applied	27,370
Total manufacturing cost	<u><u>\$ 42,070</u></u>

140) D

$$\begin{aligned}\text{Estimated total manufacturing overhead cost} &= \text{Estimated total fixed} \\ &\text{manufacturing overhead cost} + (\text{Estimated variable overhead cost per} \\ &\text{unit of the allocation base} \times \text{Estimated total amount of the allocation} \\ &\text{base}) = \$624,000 + (\$3.10 \text{ per machine-hour} \times 80,000 \text{ machine-hours}) = \\ & \$624,000 + \$248,000 = \$872,000\end{aligned}$$

$$\begin{aligned}\text{Predetermined overhead rate} &= \text{Estimated total manufacturing} \\ &\text{overhead cost} \div \text{Estimated total amount of the allocation base} = \\ & \$872,000 \div 80,000 \text{ machine-hours} = \$10.90 \text{ per machine-hour}\end{aligned}$$

$$\begin{aligned}\text{Overhead applied to a particular job} &= \text{Predetermined overhead rate} \times \\ \text{Amount of the allocation base incurred by the job} &= \$10.90 \text{ per machine-} \\ &\text{hour} \times 300 \text{ machine-hours} = \$3,270\end{aligned}$$

141) D

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$624,000 + (\$3.10 per machine-hour × 80,000 machine-hours) = \$624,000 + \$248,000 = \$872,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$872,000 ÷ 80,000 machine-hours = \$10.90 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$10.90 per machine-hour × 300 machine-hours = \$3,270

Direct materials	\$ 645
Direct labor	9,000
Manufacturing overhead applied	3,270
Total cost of Job M598	\$ 12,915

142) C

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$624,000 + (\$3.10 per machine-hour × 80,000 machine-hours) = \$624,000 + \$248,000 = \$872,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$872,000 ÷ 80,000 machine-hours = \$10.90 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$10.90 per machine-hour × 300 machine-hours = \$3,270

Direct materials	\$ 645
Direct labor	9,000
Manufacturing overhead applied	3,270
Total cost of Job M598	\$ 12,915
Total cost of Job M598 (a)	\$ 12,915

Number of units (b)	60
Unit product cost (a) ÷ (b)	\$ 215.25

143) D

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$624,000 + (\$3.10 per machine-hour × 80,000 machine-hours) = \$624,000 + \$248,000 = \$872,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$872,000 ÷ 80,000 machine-hours = \$10.90 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$10.90 per machine-hour × 300 machine-hours = \$3,270

Direct materials	\$ 645
Direct labor	9,000
Manufacturing overhead applied	3,270
Total cost of Job M598	<u>\$ 12,915</u>
Total cost of Job M598 (a)	<u>\$ 12,915</u>
Number of units (b)	60
Unit product cost (a) ÷ (b)	\$ 215.25
Unit product cost for Job M598	\$ 215.25
Markup (40% × \$215.25)	86.10
Selling price	<u><u>\$ 301.35</u></u>

144) C

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$58,000 + (\$2.00 per machine-hour × 20,000 machine-hours) = \$58,000 + \$40,000 = \$98,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$98,000 ÷ 20,000 machine-hours = \$4.90 per machine-hour

145) C

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base \times Estimated total amount of the allocation base) = \$58,000 + (\$2.00 per machine-hour \times 20,000 machine-hours) = \$58,000 + \$40,000 = \$98,000

Predetermined overhead rate = Estimated total manufacturing overhead cost \div Estimated total amount of the allocation base = \$98,000 \div 20,000 machine-hours = \$4.90 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate \times Amount of the allocation base incurred by the job = \$4.90 per machine-hour \times 80 machine-hours = \$392

146) C

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base \times Estimated total amount of the allocation base) = \$58,000 + (\$2.00 per machine-hour \times 20,000 machine-hours) = \$58,000 + \$40,000 = \$98,000

Predetermined overhead rate = Estimated total manufacturing overhead cost \div Estimated total amount of the allocation base = \$98,000 \div 20,000 machine-hours = \$4.90 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate \times Amount of the allocation base incurred by the job = \$4.90 per machine-hour \times 80 machine-hours = \$392

Direct materials	\$ 500
Direct labor	2,640
Manufacturing overhead applied	392
Total cost of Job P978	<u><u>\$ 3,532</u></u>

147) A

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$58,000 + (\$2.00 per machine-hour × 20,000 machine-hours) = \$58,000 + \$40,000 = \$98,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$98,000 ÷ 20,000 machine-hours = \$4.90 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$4.90 per machine-hour × 80 machine-hours = \$392

Direct materials	\$ 500
Direct labor	2,640
Manufacturing overhead applied	392
Total cost of Job P978	\$ 3,532
Total cost of Job P978 (a)	\$ 3,532
Number of units (b)	20
Unit product cost (a) ÷ (b)	\$ 176.60

148) B

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$58,000 + (\$2.00 per machine-hour × 20,000 machine-hours) = \$58,000 + \$40,000 = \$98,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$98,000 ÷ 20,000 machine-hours = \$4.90 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$4.90 per machine-hour × 80 machine-hours = \$392

Direct materials	\$ 500
Direct labor	2,640

Manufacturing overhead applied	392
Total cost of Job P978	<u>\$ 3,532</u>
Total cost of Job P978 (a)	<u>\$ 3,532</u>
Number of units (b)	20
Unit product cost (a) ÷ (b)	\$ 176.60
Unit product cost for Job P978	\$ 176.60
Markup (30% × \$176.60)	52.98
Selling price	<u><u>\$ 229.58</u></u>

149) B

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$294,000 + (\$2.30 per machine-hour × 70,000 machine-hours) = \$294,000 + \$161,000 = \$455,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$455,000 ÷ 70,000 machine-hours = \$6.50 per machine-hour

150) B

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$294,000 + (\$2.30 per machine-hour × 70,000 machine-hours) = \$294,000 + \$161,000 = \$455,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$455,000 ÷ 70,000 machine-hours = \$6.50 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$6.50 per machine-hour × 80 machine-hours = \$520

151) D

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$294,000 + (\$2.30 per machine-hour × 70,000 machine-hours) = \$294,000 + \$161,000 = \$455,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$455,000 ÷ 70,000 machine-hours = \$6.50 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$6.50 per machine-hour × 80 machine-hours = \$520

Direct materials	\$ 665
Direct labor	1,840
Manufacturing overhead applied	520
Total cost of Job M825	\$ 3,025

152) C

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$294,000 + (\$2.30 per machine-hour × 70,000 machine-hours) = \$294,000 + \$161,000 = \$455,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$455,000 ÷ 70,000 machine-hours = \$6.50 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$6.50 per machine-hour × 80 machine-hours = \$520

Direct materials	\$ 665
Direct labor	1,840
Manufacturing overhead applied	520
Total cost of Job M825	\$ 3,025
Total cost of Job M825 (a)	\$ 3,025

Number of units (b)	20
Unit product cost (a) ÷ (b)	\$ 151.25

153) C

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$294,000 + (\$2.30 per machine-hour × 70,000 machine-hours) = \$294,000 + \$161,000 = \$455,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$455,000 ÷ 70,000 machine-hours = \$6.50 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$6.50 per machine-hour × 80 machine-hours = \$520

Direct materials	\$ 665
Direct labor	1,840
Manufacturing overhead applied	520
Total cost of Job M825	<u>\$ 3,025</u>
Total cost of Job M825 (a)	<u>\$ 3,025</u>
Number of units (b)	20
Unit product cost (a) ÷ (b)	\$ 151.25
Unit product cost for Job M825	\$ 151.25
Markup (40% × \$151.25)	60.50
Selling price	<u><u>\$ 211.75</u></u>

154) B

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$462,000 + (\$2.20 per machine-hour × 60,000 machine-hours) = \$462,000 + \$132,000 = \$594,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$594,000 ÷ 60,000 machine-hours = \$9.90 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$9.90 per machine-hour × 80 machine-hours = \$792

155) A

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$462,000 + (\$2.20 per machine-hour × 60,000 machine-hours) = \$462,000 + \$132,000 = \$594,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$594,000 ÷ 60,000 machine-hours = \$9.90 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$9.90 per machine-hour × 80 machine-hours = \$792

Direct materials	\$ 940
Direct labor	2,240
Manufacturing overhead applied	792
Total cost of Job X455	\$ 3,972

156) C

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$462,000 + (\$2.20 per machine-hour × 60,000 machine-hours) = \$462,000 + \$132,000 = \$594,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$594,000 ÷ 60,000 machine-hours = \$9.90 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$9.90 per machine-hour × 80 machine-hours = \$792

Direct materials	\$ 940
Direct labor	2,240
Manufacturing overhead applied	792
Total cost of Job X455	\$ 3,972
Total cost of Job X455 (a)	\$ 3,972
Number of units (b)	20
Unit product cost (a) ÷ (b)	\$ 198.60

157) D

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$308,000 + (\$2.60 per machine-hour × 44,000 machine-hours) = \$308,000 + \$114,400 = \$422,400

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$422,400 ÷ 44,000 machine-hours = \$9.60 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$9.60 per machine-hour × 80 machine-hours = \$768

Direct materials	\$ 970
Direct labor	1,940

Manufacturing overhead applied	768
Total cost of Job X455	<u>\$ 3,678</u>
Total cost of Job X455 (a)	<u>\$ 3,678</u>
Number of units (b)	20
Unit product cost (a) ÷ (b)	\$ 183.90
Unit product cost for Job X455	\$ 183.90
Markup (20% × \$183.90)	36.78
Selling price	<u><u>\$ 220.68</u></u>

158) D

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$462,000 + (\$2.20 per machine-hour × 60,000 machine-hours) = \$462,000 + \$132,000 = \$594,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$594,000 ÷ 60,000 machine-hours = \$9.90 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$9.90 per machine-hour × 80 machine-hours = \$792

Direct materials	\$ 940
Direct labor	2,240
Manufacturing overhead applied	792
Total cost of Job X455	<u>\$ 3,972</u>
Total cost of Job X455 (a)	<u>\$ 3,972</u>
Number of units (b)	20
Unit product cost (a) ÷ (b)	\$ 198.60
Unit product cost for Job X455	\$ 198.60
Markup (20% × \$198.60)	39.72
Selling price	<u><u>\$ 238.32</u></u>

159) C

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$237,000 + (\$3.90 per machine-hour × 30,000 machine-hours) = \$237,000 + \$117,000 = \$354,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$354,000 ÷ 30,000 machine-hours = \$11.80 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$11.80 per machine-hour × 80 machine-hours = \$944

160) C

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$237,000 + (\$3.90 per machine-hour × 30,000 machine-hours) = \$237,000 + \$117,000 = \$354,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$354,000 ÷ 30,000 machine-hours = \$11.80 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$11.80 per machine-hour × 80 machine-hours = \$944

Direct materials	\$ 500
Direct labor	2,160
Manufacturing overhead applied	944
Total cost of Job A496	\$ 3,604

161) D

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$288,600 + (\$2.60 per machine-hour × 39,000 machine-hours) = \$288,600 + \$101,400 = \$390,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$390,000 ÷ 39,000 machine-hours = \$10.00 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$10.00 per machine-hour × 80 machine-hours = \$800

Direct materials	\$ 830
Direct labor	1,660
Manufacturing overhead applied	800
Total cost of Job A496	\$ 3,290
Total cost of Job A496 (a)	\$ 3,290
Number of units (b)	20
Unit product cost (a) ÷ (b)	\$ 164.50

162) D

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$237,000 + (\$3.90 per machine-hour × 30,000 machine-hours) = \$237,000 + \$117,000 = \$354,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$354,000 ÷ 30,000 machine-hours = \$11.80 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$11.80 per machine-hour × 80 machine-hours = \$944

Direct materials	\$ 500
Direct labor	2,160

Manufacturing overhead applied	944
Total cost of Job A496	<u>\$ 3,604</u>
Total cost of Job A496 (a)	<u>\$ 3,604</u>
Number of units (b)	20
Unit product cost (a) ÷ (b)	\$ 180.20

163) D

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$237,000 + (\$3.90 per machine-hour × 30,000 machine-hours) = \$237,000 + \$117,000 = \$354,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$354,000 ÷ 30,000 machine-hours = \$11.80 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$11.80 per machine-hour × 80 machine-hours = \$944

Direct materials	\$ 500
Direct labor	2,160
Manufacturing overhead applied	944
Total cost of Job A496	<u>\$ 3,604</u>
Total cost of Job A496 (a)	<u>\$ 3,604</u>
Number of units (b)	20
Unit product cost (a) ÷ (b)	\$ 180.20
Unit product cost for Job A496	\$ 180.20
Markup (40% × \$180.20)	72.08
Selling price	<u>\$ 252.28</u>

164) A

The first step is to calculate the estimated total overhead costs in the two departments.

Machining

Estimated fixed manufacturing overhead	\$ 33,600
Estimated variable manufacturing overhead (\$1.80 per MH × 6,000 MHs)	10,800
	<u> </u>

Estimated total manufacturing overhead cost	\$ 44,400
<hr/>	
Customizing	
Estimated fixed manufacturing overhead	\$ 10,000
Estimated variable manufacturing overhead (\$2.80 per MH × 4,000 MHs)	11,200
Estimated total manufacturing overhead cost	\$ 21,200
<hr/>	

The second step is to combine the estimated manufacturing overhead costs in the two departments (\$44,400 + \$21,200 = \$65,600) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$ 65,600
Estimated total machine hours	10,000 MHs
Predetermined overhead rate	\$ 6.56 per MH

The overhead applied to Job J is calculated as follows:

$$\begin{aligned}
 &\text{Overhead applied to a particular job} = \text{Predetermined overhead rate} \times \\
 &\text{Machine-hours incurred by the job} \\
 &= \$6.56 \text{ per MH} \times (1,900 \text{ MHs} + 2,400 \text{ MHs}) \\
 &= \$6.56 \text{ per MH} \times (4,300 \text{ MHs}) \\
 &= \$28,208
 \end{aligned}$$

165) B

The first step is to calculate the estimated total overhead costs in the two departments.

Machining

Estimated fixed manufacturing overhead	\$ 33,600
Estimated variable manufacturing overhead (\$1.80 per MH × 6,000 MHs)	10,800
Estimated total manufacturing overhead cost	\$ 44,400
<hr/>	

Customizing

Estimated fixed manufacturing overhead	\$ 10,000
Estimated variable manufacturing overhead (\$2.80 per MH × 4,000 MHs)	11,200
Estimated total manufacturing overhead cost	\$ 21,200
<hr/>	

The second step is to combine the estimated manufacturing overhead costs in the two departments (\$44,400 + \$21,200 = \$65,600) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$ 65,600
Estimated total machine-hours	10,000 MHs
Predetermined overhead rate	\$ 6.56 per MH

The overhead applied to Job C is calculated as follows:

$$\begin{aligned}
 &\text{Overhead applied to a particular job} = \text{Predetermined overhead rate} \times \\
 &\text{Machine-hours incurred by the job} \\
 &= \$6.56 \text{ per MH} \times (4,100 \text{ MHs} + 1,600 \text{ MHs}) \\
 &= \$6.56 \text{ per MH} \times (5,700 \text{ MHs}) \\
 &= \$37,392
 \end{aligned}$$

Job C's manufacturing cost:

Direct materials	\$ 11,300
Direct labor cost	18,500
Manufacturing overhead applied	37,392
Total manufacturing cost	<u>\$ 67,192</u>

166) A

$$\begin{aligned}
 &\text{Estimated total manufacturing overhead cost} = \text{Estimated total fixed} \\
 &\text{manufacturing overhead cost} + (\text{Estimated variable overhead cost per} \\
 &\text{unit of the allocation base} \times \text{Estimated total amount of the allocation} \\
 &\text{base}) = \$285,000 + (\$3.80 \text{ per direct labor-hour} \times 50,000 \text{ direct labor-} \\
 &\text{hours}) = \$285,000 + \$190,000 = \$475,000
 \end{aligned}$$

167) C

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base \times Estimated total amount of the allocation base) = \$285,000 + (\$3.80 per direct labor-hour \times 50,000 direct labor-hours) = \$285,000 + \$190,000 = \$475,000

Predetermined overhead rate = Estimated total manufacturing overhead cost \div Estimated total amount of the allocation base = \$475,000 \div 50,000 direct labor-hours = \$9.50 per direct labor-hour

168) B

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base \times Estimated total amount of the allocation base) = \$285,000 + (\$3.80 per direct labor-hour \times 50,000 direct labor-hours) = \$285,000 + \$190,000 = \$475,000

Predetermined overhead rate = Estimated total manufacturing overhead cost \div Estimated total amount of the allocation base = \$475,000 \div 50,000 direct labor-hours = \$9.50 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate \times Amount of the allocation base incurred by the job = \$9.50 per direct labor-hour \times 20 direct labor-hours = \$190

169) C

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$285,000 + (\$3.80 per direct labor-hour × 50,000 direct labor-hours) = \$285,000 + \$190,000 = \$475,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$475,000 ÷ 50,000 direct labor-hours = \$9.50 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$9.50 per direct labor-hour × 20 direct labor-hours = \$190

Direct materials	\$ 710
Direct labor	500
Manufacturing overhead applied	190
Total cost of Job P513	\$ 1,400

170) C

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$90,000 + (\$3.50 per direct labor-hour × 30,000 direct labor-hours) = \$90,000 + \$105,000 = \$195,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$195,000 ÷ 30,000 direct labor-hours = \$6.50 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$6.50 per direct labor-hour × 100 direct labor-hours = \$650

171) C

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$90,000 + (\$3.50 per direct labor-hour × 30,000 direct labor-hours) = \$90,000 + \$105,000 = \$195,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$195,000 ÷ 30,000 direct labor-hours = \$6.50 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$6.50 per direct labor-hour × 100 direct labor-hours = \$650

Direct materials	\$ 520
Direct labor	2,800
Manufacturing overhead applied	650
Total cost of Job A477	\$ 3,970

172) B

Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$= \$77,600 + (\$3.00 \text{ per direct labor-hour} \times 8,000 \text{ direct labor-hours})$$

$$= \$77,600 + \$24,000 = \$101,600$$

173) B

Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$= \$77,600 + (\$3.00 \text{ per direct labor-hour} \times 8,000 \text{ direct labor-hours})$$

$$= \$77,600 + \$24,000 = \$101,600$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = \$101,600 ÷ 8,000 direct labor-hours = \$12.70 per direct labor-hour

174) A

Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour \times Total direct labor-hours in the department)

$$\begin{aligned} &= \$77,600 + (\$3.00 \text{ per direct labor-hour} \times 8,000 \text{ direct labor-hours}) \\ &= \$77,600 + \$24,000 = \$101,600 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost \div Estimated total amount of the allocation base incurred = $\$101,600 \div 8,000$ direct labor-hours = $\$12.70$ per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate \times Amount of the allocation base incurred by the job = $\$12.70$ per direct labor-hour $\times 40$ direct labor-hours = $\$508$

175) D

Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$= \$129,200 + (\$1.60 \text{ per machine-hour} \times 19,000 \text{ machine-hours})$$

$$= \$129,200 + \$30,400 = \$159,600$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$159,600 \div 19,000 \text{ machine-hours} = \$8.40 \text{ per machine-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$8.40 \text{ per machine-hour} \times 80 \text{ machine-hours} = \672

Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$= \$77,600 + (\$3.00 \text{ per direct labor-hour} \times 8,000 \text{ direct labor-hours})$$

$$= \$77,600 + \$24,000 = \$101,600$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$101,600 \div 8,000 \text{ direct labor-hours} = \$12.70 \text{ per direct labor-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$12.70 \text{ per direct labor-hour} \times 40 \text{ direct labor-hours} = \508

Overhead applied to Job T288

Forming Department	\$ 672
Assembly Department	508
Total	<u>\$ 1,180</u>

176) D

Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$= \$129,200 + (\$1.60 \text{ per machine-hour} \times 19,000 \text{ machine-hours})$$

$$= \$129,200 + \$30,400 = \$159,600$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$159,600 \div 19,000 \text{ machine-hours} = \$8.40 \text{ per machine-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$8.40 \text{ per machine-hour} \times 80 \text{ machine-hours} = \672

Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$= \$77,600 + (\$3.00 \text{ per direct labor-hour} \times 8,000 \text{ direct labor-hours})$$

$$= \$77,600 + \$24,000 = \$101,600$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$101,600 \div 8,000 \text{ direct labor-hours} = \$12.70 \text{ per direct labor-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$12.70 \text{ per direct labor-hour} \times 40 \text{ direct labor-hours} = \508

	Forming	Assembly	Total
Direct materials	\$ 730	\$ 380	\$ 1,110
Direct labor	\$ 900	\$ 1,200	2,100
Manufacturing overhead applied	\$ 672	\$ 508	1,180
Total cost of Job T288			<u>\$ 4,390</u>

177) C

Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$= \$129,200 + (\$1.60 \text{ per machine-hour} \times 19,000 \text{ machine-hours})$$

$$= \$129,200 + \$30,400 = \$159,600$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$159,600 \div 19,000 \text{ machine-hours} = \$8.40 \text{ per machine-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$8.40 \text{ per machine-hour} \times 80 \text{ machine-hours} = \672

Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$= \$77,600 + (\$3.00 \text{ per direct labor-hour} \times 8,000 \text{ direct labor-hours})$$

$$= \$77,600 + \$24,000 = \$101,600$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$101,600 \div 8,000 \text{ direct labor-hours} = \$12.70 \text{ per direct labor-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$12.70 \text{ per direct labor-hour} \times 40 \text{ direct labor-hours} = \508

	Forming	Assembly	Total
Direct materials	\$ 730	\$ 380	\$ 1,110
Direct labor	\$ 900	\$ 1,200	2,100
Manufacturing overhead applied	\$ 672	\$ 508	1,180
Total cost of Job T288			<u>\$ 4,390</u>
Total cost of Job T288	\$ 4,390.00		
Markup (\$4,390.00 × 20%)	878.00		
Selling price	<u>\$ 5,268.00</u>		

178) B

Casting Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 4,800
Estimated variable manufacturing overhead ($\$1.80 \text{ per MH} \times 1,000 \text{ MHs}$)	1,800
Estimated total manufacturing overhead cost (a)	<u>\$ 6,600</u>
Estimated total machine-hours (b)	1,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 6.60 per MH

Finishing Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 8,800
Estimated variable manufacturing overhead ($\$2.90 \text{ per MH} \times 4,000 \text{ MHs}$)	11,600
Estimated total manufacturing overhead cost (a)	<u>\$ 20,400</u>
Estimated total machine-hours (b)	4,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 5.10 per MH

Manufacturing overhead applied to Job F:

Casting ($\$6.60 \text{ per MH} \times 700 \text{ MHs}$)	\$ 4,620
Finishing ($\$5.10 \text{ per MH} \times 1,600 \text{ MHs}$)	8,160
Total manufacturing overhead applied	<u><u>\$ 12,780</u></u>

179) D

Casting Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 4,800
Estimated variable manufacturing overhead ($\$1.80 \text{ per MH} \times 1,000 \text{ MHs}$)	1,800
Estimated total manufacturing overhead cost (a)	<u>\$ 6,600</u>
Estimated total machine-hours (b)	1,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 6.60 per MH

Finishing Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 8,800
Estimated variable manufacturing overhead ($\$2.90 \text{ per MH} \times 4,000 \text{ MHs}$)	11,600
Estimated total manufacturing overhead cost (a)	<u>\$ 20,400</u>
Estimated total machine-hours (b)	4,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 5.10 per MH

Manufacturing overhead applied to Job M:

Casting (\$6.60 per MH × 300 MHs)	\$ 1,980
Finishing (\$5.10 per MH × 2,400 MHs)	12,240
Total manufacturing overhead applied	<u>\$ 14,220</u>

The selling price for Job M would be calculated as follows:

Direct materials	\$ 9,000
Direct labor cost	7,400
Manufacturing overhead applied	14,220
Total manufacturing cost	<u>\$ 30,620</u>
Markup (50%)	15,310
Selling price	<u>\$ 45,930</u>

180) B

Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$\begin{aligned} &= \$96,900 + (\$2.00 \text{ per machine-hour} \times 17,000 \text{ machine-hours}) \\ &= \$96,900 + \$34,000 = \$130,900 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$130,900 \div 17,000 \text{ machine-hours} = \$7.70 \text{ per machine-hour}$

181) B

Finishing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$\begin{aligned} &= \$65,800 + (\$3.60 \text{ per direct labor-hour} \times 7,000 \text{ direct labor-hours}) \\ &= \$65,800 + \$25,200 = \$91,000 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$91,000 \div 7,000 \text{ direct labor-hours} = \$13.00 \text{ per direct labor-hour}$

182) C

Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$= \$96,900 + (\$2.00 \text{ per machine-hour} \times 17,000 \text{ machine-hours})$$

$$= \$96,900 + \$34,000 = \$130,900$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$130,900 \div 17,000 \text{ machine-hours} = \$7.70 \text{ per machine-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$7.70 \text{ per machine-hour} \times 80 \text{ machine-hours} = \616

Finishing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$= \$65,800 + (\$3.60 \text{ per direct labor-hour} \times 7,000 \text{ direct labor-hours})$$

$$= \$65,800 + \$25,200 = \$91,000$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$91,000 \div 7,000 \text{ direct labor-hours} = \$13.00 \text{ per direct labor-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$13.00 \text{ per direct labor-hour} \times 40 \text{ direct labor-hours} = \520

	Forming	Finishing	Total
Direct materials	\$ 840	\$ 350	\$ 1,190
Direct labor	\$ 750	\$ 1,000	1,750
Manufacturing overhead applied	\$ 616	\$ 520	1,136
Total cost of Job M381			\$ 4,076

183) C

$$\begin{aligned}\text{Machining Department overhead cost} &= \text{Fixed manufacturing overhead cost} + (\text{Variable overhead cost per machine-hour} \times \text{Total machine-hours in the department}) \\ &= \$136,800 + (\$1.80 \text{ per machine-hour} \times 19,000 \text{ machine-hours}) \\ &= \$136,800 + \$34,200 = \$171,000\end{aligned}$$

184) B

$$\begin{aligned}\text{Machining Department overhead cost} &= \text{Fixed manufacturing overhead cost} + (\text{Variable overhead cost per machine-hour} \times \text{Total machine-hours in the department}) \\ &= \$136,800 + (\$1.80 \text{ per machine-hour} \times 19,000 \text{ machine-hours}) \\ &= \$136,800 + \$34,200 = \$171,000\end{aligned}$$

$$\begin{aligned}\text{Predetermined overhead rate} &= \text{Estimated total manufacturing overhead cost} \div \text{Estimated total amount of the allocation base incurred} \\ &= \$171,000 \div 19,000 \text{ machine-hours} = \$9.00 \text{ per machine-hour}\end{aligned}$$

185) B

$$\begin{aligned}\text{Machining Department overhead cost} &= \text{Fixed manufacturing overhead cost} + (\text{Variable overhead cost per machine-hour} \times \text{Total machine-hours in the department}) \\ &= \$136,800 + (\$1.80 \text{ per machine-hour} \times 19,000 \text{ machine-hours}) \\ &= \$136,800 + \$34,200 = \$171,000\end{aligned}$$

$$\begin{aligned}\text{Predetermined overhead rate} &= \text{Estimated total manufacturing overhead cost} \div \text{Estimated total amount of the allocation base incurred} \\ &= \$171,000 \div 19,000 \text{ machine-hours} = \$9.00 \text{ per machine-hour}\end{aligned}$$

$$\begin{aligned}\text{Overhead applied to a particular job} &= \text{Predetermined overhead rate} \times \text{Amount of the allocation base incurred by the job} \\ &= \$9.00 \text{ per machine-hour} \times 90 \text{ machine-hours} = \$810\end{aligned}$$

186) A

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$\begin{aligned} &= \$136,800 + (\$1.80 \text{ per machine-hour} \times 19,000 \text{ machine-hours}) \\ &= \$136,800 + \$34,200 = \$171,000 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$171,000 \div 19,000 \text{ machine-hours} = \$9.00 \text{ per machine-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$9.00 \text{ per machine-hour} \times 90 \text{ machine-hours} = \810

Finishing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$\begin{aligned} &= \$69,600 + (\$3.20 \text{ per direct labor-hour} \times 8,000 \text{ direct labor-hours}) \\ &= \$69,600 + \$25,600 = \$95,200 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$95,200 \div 8,000 \text{ direct labor-hours} = \$11.90 \text{ per direct labor-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$11.90 \text{ per direct labor-hour} \times 50 \text{ direct labor-hours} = \595

Overhead applied to Job K928

Machining Department	\$ 810
Finishing Department	595
Total	<u>\$ 1,405</u>

187) B

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$= \$136,800 + (\$1.80 \text{ per machine-hour} \times 19,000 \text{ machine-hours})$$

$$= \$136,800 + \$34,200 = \$171,000$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = \$171,000 ÷ 19,000 machine-hours = \$9.00 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$9.00 per machine-hour × 90 machine-hours = \$810

Finishing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$= \$69,600 + (\$3.20 \text{ per direct labor-hour} \times 8,000 \text{ direct labor-hours})$$

$$= \$69,600 + \$25,600 = \$95,200$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = \$95,200 ÷ 8,000 direct labor-hours = \$11.90 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$11.90 per direct labor-hour × 50 direct labor-hours = \$595

	Machining	Finishing	Total
Direct materials	\$ 775	\$ 415	\$ 1,190
Direct labor	\$ 630	\$ 1,050	1,680
Manufacturing overhead applied	\$ 810	\$ 595	1,405
Total cost of Job K928			\$ 4,275

188) C

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$= \$136,800 + (\$1.80 \text{ per machine-hour} \times 19,000 \text{ machine-hours})$$

$$= \$136,800 + \$34,200 = \$171,000$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$171,000 \div 19,000 \text{ machine-hours} = \$9.00 \text{ per machine-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$9.00 \text{ per machine-hour} \times 90 \text{ machine-hours} = \810

Finishing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$= \$69,600 + (\$3.20 \text{ per direct labor-hour} \times 8,000 \text{ direct labor-hours})$$

$$= \$69,600 + \$25,600 = \$95,200$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$95,200 \div 8,000 \text{ direct labor-hours} = \$11.90 \text{ per direct labor-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$11.90 \text{ per direct labor-hour} \times 50 \text{ direct labor-hours} = \595

	Machining	Finishing	Total
Direct materials	\$ 775	\$ 415	\$ 1,190
Direct labor	\$ 630	\$ 1,050	1,680
Manufacturing overhead applied	\$ 810	\$ 595	1,405
Total cost of Job K928			<u>\$ 4,275</u>
Total cost of Job K928	\$ 4,275.00		
Markup (\$4,275.00 × 20%)	855.00		
Selling price	<u>\$ 5,130.00</u>		

189) C

The first step is to calculate the estimated total overhead costs in the two departments.

Machining

Estimated fixed manufacturing overhead	\$ 4,800
Estimated variable manufacturing overhead (\$1.10 per MH × 1,000 MHs)	1,100
Estimated total manufacturing overhead cost	<u>\$ 5,900</u>

Customizing

Estimated fixed manufacturing overhead	\$ 23,400
Estimated variable manufacturing overhead (\$2.50 per MH × 9,000 MHs)	22,500
Estimated total manufacturing overhead cost	<u>\$ 45,900</u>

The second step is to combine the estimated manufacturing overhead costs in the two departments (\$5,900 + \$45,900 = \$51,800) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$ 51,800
Estimated total machine-hours	10,000 MHs
Predetermined overhead rate	\$ 5.18 per MH

The overhead applied to Job A is calculated as follows:

$$\begin{aligned}
 &\text{Overhead applied to a particular job} = \text{Predetermined overhead rate} \times \\
 &\text{Machine-hours incurred by the job} \\
 &= \$5.18 \text{ per MH} \times (700 \text{ MHs} + 3,600 \text{ MHs}) \\
 &= \$5.18 \text{ per MH} \times (4,300 \text{ MHs}) \\
 &= \$22,274
 \end{aligned}$$

Job A's manufacturing cost:

Direct materials	\$ 12,000
Direct labor cost	20,700
Manufacturing overhead applied	22,274
Total manufacturing cost	<u>\$ 54,974</u>

The selling price for Job A:

Total manufacturing cost	\$ 54,974
Markup (50%)	27,487
Selling price	<u>\$ 82,461</u>

190) B

The first step is to calculate the estimated total overhead costs in the two departments.

Machining

Estimated fixed manufacturing overhead	\$ 4,800
Estimated variable manufacturing overhead (\$1.10 per MH × 1,000 MHs)	1,100
Estimated total manufacturing overhead cost	\$ 5,900

Customizing

Estimated fixed manufacturing overhead	\$ 23,400
Estimated variable manufacturing overhead (\$2.50 per MH × 9,000 MHs)	22,500
Estimated total manufacturing overhead cost	\$ 45,900

The second step is to combine the estimated manufacturing overhead costs in the two departments (\$5,900 + \$45,900 = \$51,800) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$ 51,800
Estimated total machine-hours	10,000 MHs
Predetermined overhead rate	\$ 5.18 per MH

The overhead applied to Job J is calculated as follows:

$$\begin{aligned}
 &\text{Overhead applied to a particular job} = \text{Predetermined overhead rate} \times \\
 &\text{Machine-hours incurred by the job} \\
 &= \$5.18 \text{ per MH} \times (300 \text{ MHs} + 5,400 \text{ MHs}) \\
 &= \$5.18 \text{ per MH} \times (5,700 \text{ MHs}) \\
 &= \$29,526
 \end{aligned}$$

Job J's manufacturing cost:

Direct materials	\$ 7,700
Direct labor cost	6,400
Manufacturing overhead applied	29,526
Total manufacturing cost	\$ 43,626

The selling price for Job J:

Total manufacturing cost	\$ 43,626
Markup (50%)	21,813
Selling price	\$ 65,439

191) C

Machining Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 4,800
Estimated variable manufacturing overhead (\$1.10 per MH × 1,000 MHs)	1,100
Estimated total manufacturing overhead cost (a)	<u>\$ 5,900</u>
Estimated total machine-hours (b)	1,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 5.90 per MH

Customizing Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 23,400
Estimated variable manufacturing overhead (\$2.50 per MH × 9,000 MHs)	22,500
Estimated total manufacturing overhead cost (a)	<u>\$ 45,900</u>
Estimated total machine-hours (b)	9,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 5.10 per MH

Manufacturing overhead applied to Job A:

Machining (\$5.90 per MH × 700 MHs)	\$ 4,130
Customizing (\$5.10 per MH × 3,600 MHs)	18,360
Total manufacturing overhead applied	<u><u>\$ 22,490</u></u>

The selling price for Job A would be calculated as follows:

Direct materials	\$ 12,000
Direct labor cost	20,700
Manufacturing overhead applied	22,490
Total manufacturing cost	<u>\$ 55,190</u>
Markup (50%)	27,595
Selling price	<u><u>\$ 82,785</u></u>

192) A

Machining Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 4,800
Estimated variable manufacturing overhead (\$1.10 per MH × 1,000 MHs)	1,100
Estimated total manufacturing overhead cost (a)	<u>\$ 5,900</u>
Estimated total machine-hours (b)	1,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 5.90 per MH

Customizing Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 23,400
Estimated variable manufacturing overhead (\$2.50 per MH × 9,000 MHs)	22,500
Estimated total manufacturing overhead cost (a)	\$ 45,900

Estimated total machine-hours (b)	9,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 5.10 per MH

Manufacturing overhead applied to Job J:

Machining (\$5.90 per MH × 300 MHs)	\$ 1,770
Customizing (\$5.10 per MH × 5,400 MHs)	27,540
Total manufacturing overhead applied	\$ 29,310

The selling price for Job J would be calculated as follows:

Direct materials	\$ 7,700
Direct labor cost	6,400
Manufacturing overhead applied	29,310
Total manufacturing cost	\$ 43,410
Markup (50%)	21,705
Selling price	\$ 65,115

193) D

Milling Department overhead cost = Fixed manufacturing overhead cost
+ (Variable overhead cost per machine-hour × Total machine-hours in
the department)

$$= \$113,400 + (\$1.60 \text{ per machine-hour} \times 18,000 \text{ machine-hours})$$

$$= \$113,400 + \$28,800 = \$142,200$$

Predetermined overhead rate = Estimated total manufacturing
overhead cost ÷ Estimated total amount of the allocation base incurred =
\$142,200 ÷ 18,000 machine-hours = \$7.90 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate ×
Amount of the allocation base incurred by the job = \$7.90 per machine-
hour × 60 machine-hours = \$474

194) B

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour \times Total direct labor-hours in the department)

$$\begin{aligned} &= \$64,400 + (\$3.90 \text{ per direct labor-hour} \times 7,000 \text{ direct labor-hours}) \\ &= \$64,400 + \$27,300 = \$91,700 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost \div Estimated total amount of the allocation base incurred = $\$91,700 \div 7,000$ direct labor-hours = $\$13.10$ per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate \times Amount of the allocation base incurred by the job = $\$13.10$ per direct labor-hour $\times 60$ direct labor-hours = $\$786$

195) B

Milling Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$= \$91,000 + (\$2.00 \text{ per machine-hour} \times 26,000 \text{ machine-hours})$$

$$= \$91,000 + \$52,000 = \$143,000$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$143,000 \div 26,000 \text{ machine-hours} = \$5.50 \text{ per machine-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$5.50 \text{ per machine-hour} \times 40 \text{ machine-hours} = \220

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$= \$44,000 + (\$4.40 \text{ per direct labor-hour} \times 8,000 \text{ direct labor-hours})$$

$$= \$44,000 + \$35,200 = \$79,200$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$79,200 \div 8,000 \text{ direct labor-hours} = \$9.90 \text{ per direct labor-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$9.90 \text{ per direct labor-hour} \times 40 \text{ direct labor-hours} = \396

	Milling	Customizing	Total
Direct materials	\$ 400	\$ 200	\$ 600
Direct labor	\$ 570	\$ 600	1,170
Manufacturing overhead applied	\$ 220	\$ 396	616
Total cost of Job A319			\$ 2,386
Total cost of Job A319	\$ 2,386		
Markup (\$2,386 × 20%)	477		
Selling price	\$ 2,863		

196) B

Milling Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$= \$113,400 + (\$1.60 \text{ per machine-hour} \times 18,000 \text{ machine-hours})$$

$$= \$113,400 + \$28,800 = \$142,200$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$142,200 \div 18,000 \text{ machine-hours} = \$7.90 \text{ per machine-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$7.90 \text{ per machine-hour} \times 60 \text{ machine-hours} = \474

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$= \$64,400 + (\$3.90 \text{ per direct labor-hour} \times 7,000 \text{ direct labor-hours})$$

$$= \$64,400 + \$27,300 = \$91,700$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$91,700 \div 7,000 \text{ direct labor-hours} = \$13.10 \text{ per direct labor-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$13.10 \text{ per direct labor-hour} \times 60 \text{ direct labor-hours} = \786

	Milling	Customizing	Total
Direct materials	\$ 655	\$ 305	\$ 960
Direct labor	\$ 400	\$ 1,200	1,600
Manufacturing overhead applied	\$ 474	\$ 786	1,260
Total cost of Job A319			\$ 3,820
Total cost of Job A319	\$ 3,820.00		
Markup (\$3,820.00 × 20%)	764.00		

Selling price \$ 4,584.00

197) C

Machining Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 26,500
Estimated variable manufacturing overhead (\$2.00 per MH × 5,000 MHs)	10,000
Estimated total manufacturing overhead cost (a)	<u>\$ 36,500</u>
Estimated total machine-hours (b)	5,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 7.30 per MH

Finishing Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 13,500
Estimated variable manufacturing overhead (\$3.00 per MH × 5,000 MHs)	15,000
Estimated total manufacturing overhead cost (a)	<u>\$ 28,500</u>
Estimated total machine-hours (b)	5,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 5.70 per MH

Manufacturing overhead applied to Job L:

Machining (\$7.30 per MH × 1,600 MHs)	\$ 11,680
Finishing (\$5.70 per MH × 3,000 MHs)	17,100
Total manufacturing overhead applied	<u>\$ 28,780</u>

198) D

Machining Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 26,500
Estimated variable manufacturing overhead (\$2.00 per MH × 5,000 MHs)	10,000
Estimated total manufacturing overhead cost (a)	<u>\$ 36,500</u>
Estimated total machine-hours (b)	5,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 7.30 per MH

Finishing Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 13,500
Estimated variable manufacturing overhead (\$3.00 per MH × 5,000 MHs)	15,000
Estimated total manufacturing overhead cost (a)	<u>\$ 28,500</u>
Estimated total machine-hours (b)	5,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 5.70 per MH

Manufacturing overhead applied to Job C:

Machining (\$7.30 per MH × 3,400 MHs)	\$ 24,820
Finishing (\$5.70 per MH × 2,000 MHs)	11,400
Total manufacturing overhead applied	<u>\$ 36,220</u>

The selling price for Job C would be calculated as follows:

Direct materials	\$ 12,500
Direct labor cost	20,200
Manufacturing overhead applied	36,220
Total manufacturing cost	<u>\$ 68,920</u>
Markup (20%)	13,784
Selling price	<u>\$ 82,704</u>

199) D

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)
 = \$102,000 + (\$1.70 per machine-hour × 17,000 machine-hours)
 = \$102,000 + \$28,900 = \$130,900

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = \$130,900 ÷ 17,000 machine-hours = \$7.70 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$7.70 per machine-hour × 80 machine-hours = \$616

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)
 = \$61,200 + (\$4.10 per direct labor-hour × 6,000 direct labor-hours) = \$61,200 + \$24,600 = \$85,800

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = \$85,800 ÷ 6,000 direct labor-hours = \$14.30 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$14.30 per direct labor-hour × 50 direct labor-hours = \$715

Overhead applied to Job T268

Machining Department	\$ 616
Customizing Department	715
Total	<u>\$ 1,331</u>

200) C

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$= \$102,000 + (\$1.70 \text{ per machine-hour} \times 17,000 \text{ machine-hours})$$

$$= \$102,000 + \$28,900 = \$130,900$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$130,900 \div 17,000 \text{ machine-hours} = \$7.70 \text{ per machine-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$7.70 \text{ per machine-hour} \times 80 \text{ machine-hours} = \616

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$= \$61,200 + (\$4.10 \text{ per direct labor-hour} \times 6,000 \text{ direct labor-hours})$$

$$= \$61,200 + \$24,600 = \$85,800$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$85,800 \div 6,000 \text{ direct labor-hours} = \$14.30 \text{ per direct labor-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$14.30 \text{ per direct labor-hour} \times 50 \text{ direct labor-hours} = \715

	Machining	Customizing	Total
Direct materials	\$ 720	\$ 380	\$ 1,100
Direct labor	\$ 900	\$ 1,500	2,400
Manufacturing overhead applied	\$ 616	\$ 715	1,331
Total cost of Job T268			<u>\$ 4,831</u>

201) B

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$= \$102,000 + (\$1.70 \text{ per machine-hour} \times 17,000 \text{ machine-hours})$$

$$= \$102,000 + \$28,900 = \$130,900$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$130,900 \div 17,000 \text{ machine-hours} = \$7.70 \text{ per machine-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$7.70 \text{ per machine-hour} \times 80 \text{ machine-hours} = \616

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$= \$61,200 + (\$4.10 \text{ per direct labor-hour} \times 6,000 \text{ direct labor-hours})$$

$$= \$61,200 + \$24,600 = \$85,800$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$85,800 \div 6,000 \text{ direct labor-hours} = \$14.30 \text{ per direct labor-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$14.30 \text{ per direct labor-hour} \times 50 \text{ direct labor-hours} = \715

	Machining	Customizing	Total
Direct materials	\$ 720	\$ 380	\$ 1,100
Direct labor	\$ 900	\$ 1,500	2,400
Manufacturing overhead applied	\$ 616	\$ 715	1,331
Total cost of Job T268			<u>\$ 4,831</u>
Total cost of Job T268	\$ 4,831.00		
Markup (\$4,831.00 × 40%)	1,932.40		
Selling price	<u>\$ 6,763.40</u>		

202) A

The first step is to calculate the estimated total overhead costs in the two departments.

Forming

Estimated fixed manufacturing overhead	\$ 16,500
Estimated variable manufacturing overhead (\$1.70 per MH × 3,000 MHs)	5,100
Estimated total manufacturing overhead cost	\$ 21,600

Customizing

Estimated fixed manufacturing overhead	\$ 20,300
Estimated variable manufacturing overhead (\$2.50 per MH × 7,000 MHs)	17,500
Estimated total manufacturing overhead cost	\$ 37,800

The second step is to combine the estimated manufacturing overhead costs in the two departments (\$21,600 + \$37,800 = \$59,400) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$ 59,400
Estimated total machine hours	10,000 MHs
Predetermined overhead rate	\$5.94 per MH

The overhead applied to Job A is calculated as follows:

$$\begin{aligned}
 &\text{Overhead applied to a particular job} = \text{Predetermined overhead rate} \times \\
 &\text{Machine-hours incurred by the job} \\
 &= \$5.94 \text{ per MH} \times (2,000 \text{ MHs} + 2,800 \text{ MHs}) \\
 &= \$5.94 \text{ per MH} \times (4,800 \text{ MHs}) \\
 &= \$28,512
 \end{aligned}$$

203) C

The first step is to calculate the estimated total overhead costs in the two departments.

Forming

Estimated fixed manufacturing overhead	\$ 16,500
Estimated variable manufacturing overhead (\$1.70 per MH × 3,000 MHs)	5,100
Estimated total manufacturing overhead cost	\$ 21,600

Customizing

Estimated fixed manufacturing overhead	\$ 20,300
Estimated variable manufacturing overhead (\$2.50 per MH × 7,000 MHs)	17,500
Estimated total manufacturing overhead cost	<u>\$ 37,800</u>

The second step is to combine the estimated manufacturing overhead costs in the two departments (\$21,600 + \$37,800 = \$59,400) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$ 59,400
Estimated total machine hours	10,000 MHs
Predetermined overhead rate	\$ 5.94 per MH

The overhead applied to Job H is calculated as follows:

$$\begin{aligned}\text{Overhead applied to a particular job} &= \text{Predetermined overhead rate} \times \\ &\text{Machine-hours incurred by the job} \\ &= \$5.94 \text{ per MH} \times (1,000 \text{ MHs} + 4,200 \text{ MHs}) \\ &= \$5.94 \text{ per MH} \times (5,200 \text{ MHs}) \\ &= \$30,888\end{aligned}$$

204) D

Forming Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 16,500
Estimated variable manufacturing overhead (\$1.70 per MH × 3,000 MHs)	5,100
Estimated total manufacturing overhead cost (a)	<u>\$ 21,600</u>
Estimated total machine-hours (b)	3,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$7.20 per MH

Customizing Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 20,300
Estimated variable manufacturing overhead (\$2.50 per MH × 7,000 MHs)	17,500
Estimated total manufacturing overhead cost (a)	<u>\$ 37,800</u>
Estimated total machine-hours (b)	7,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 5.40 per MH

(b)

Manufacturing overhead applied to Job A:

Forming (\$7.20 per MH × 2,000 MHs)	\$ 14,400
Customizing (\$5.40 per MH × 2,800 MHs)	15,120
Total manufacturing overhead applied	<u>\$ 29,520</u>

205) C

Forming Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 16,500
Estimated variable manufacturing overhead (\$1.70 per MH × 3,000 MHs)	5,100
Estimated total manufacturing overhead cost (a)	<u>\$ 21,600</u>

Estimated total machine-hours (b)	3,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 7.20 per MH

Customizing Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 20,300
Estimated variable manufacturing overhead (\$2.50 per MH × 7,000 MHs)	17,500
Estimated total manufacturing overhead cost (a)	<u>\$ 37,800</u>

Estimated total machine-hours (b)	7,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$5.40 per MH

Manufacturing overhead applied to Job H:

Forming (\$7.20 per MH × 1,000 MHs)	\$ 7,200
Customizing (\$5.40 per MH × 4,200 MHs)	22,680
Total manufacturing overhead applied	<u>\$ 29,880</u>

206) A

Casting Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$\begin{aligned} &= \$129,200 + (\$1.80 \text{ per machine-hour} \times 17,000 \text{ machine-hours}) \\ &= \$129,200 + \$30,600 = \$159,800 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$159,800 \div 17,000 \text{ machine-hours} = \$9.40 \text{ per machine-hour}$

207) D

Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$\begin{aligned} &= \$46,500 + (\$3.80 \text{ per direct labor-hour} \times 5,000 \text{ direct labor-hours}) \\ &= \$46,500 + \$19,000 = \$65,500 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$65,500 \div 5,000 \text{ direct labor-hours} = \$13.10 \text{ per direct labor-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$13.10 \text{ per direct labor-hour} \times 60 \text{ direct labor-hours} = \786

208) A

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$\begin{aligned} &= \$154,000 + (\$2.00 \text{ per machine-hour} \times 28,000 \text{ machine-hours}) \\ &= \$154,000 + \$56,000 = \$210,000 \end{aligned}$$

209) A

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$\begin{aligned} &= \$104,000 + (\$2.10 \text{ per machine-hour} \times 16,000 \text{ machine-hours}) \\ &= \$104,000 + \$33,600 = \$137,600 \end{aligned}$$

210) D

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$\begin{aligned} &= \$56,400 + (\$3.30 \text{ per direct labor-hour} \times 6,000 \text{ direct labor-hours}) \\ &= \$56,400 + \$19,800 = \$76,200 \end{aligned}$$

211) D

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$\begin{aligned} &= \$104,000 + (\$2.10 \text{ per machine-hour} \times 16,000 \text{ machine-hours}) \\ &= \$104,000 + \$33,600 = \$137,600 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$137,600 \div 16,000 \text{ machine-hours} = \$8.60 \text{ per machine-hour}$

212) B

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$\begin{aligned} &= \$56,400 + (\$3.30 \text{ per direct labor-hour} \times 6,000 \text{ direct labor-hours}) \\ &= \$56,400 + \$19,800 = \$76,200 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$76,200 \div 6,000 \text{ direct labor-hours} = \$12.70 \text{ per direct labor-hour}$

213) C

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$\begin{aligned} &= \$104,000 + (\$2.10 \text{ per machine-hour} \times 16,000 \text{ machine-hours}) \\ &= \$104,000 + \$33,600 = \$137,600 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$137,600 \div 16,000 \text{ machine-hours} = \$8.60 \text{ per machine-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$8.60 \text{ per machine-hour} \times 60 \text{ machine-hours} = \516

214) B

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$\begin{aligned} &= \$56,400 + (\$3.30 \text{ per direct labor-hour} \times 6,000 \text{ direct labor-hours}) \\ &= \$56,400 + \$19,800 = \$76,200 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$76,200 \div 6,000 \text{ direct labor-hours} = \$12.70 \text{ per direct labor-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$12.70 \text{ per direct labor-hour} \times 60 \text{ direct labor-hours} = \762

215) C

Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$\begin{aligned} &= \$138,000 + (\$2.30 \text{ per machine-hour} \times 20,000 \text{ machine-hours}) \\ &= \$138,000 + \$46,000 = \$184,000 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$184,000 \div 20,000 \text{ machine-hours} = \$9.20 \text{ per machine-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$9.20 \text{ per machine-hour} \times 80 \text{ machine-hours} = \736

216) C

Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$\begin{aligned} &= \$58,100 + (\$3.00 \text{ per direct labor-hour} \times 7,000 \text{ direct labor-hours}) \\ &= \$58,100 + \$21,000 = \$79,100 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$79,100 \div 7,000 \text{ direct labor-hours} = \$11.30 \text{ per direct labor-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$11.30 \text{ per direct labor-hour} \times 50 \text{ direct labor-hours} = \565

217) C

Finishing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$\begin{aligned} &= \$52,800 + (\$3.80 \text{ per direct labor-hour} \times 6,000 \text{ direct labor-hours}) \\ &= \$52,800 + \$22,800 = \$75,600 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$75,600 \div 6,000 \text{ direct labor-hours} = \$12.60 \text{ per direct labor-hour}$

218) A

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$\begin{aligned} &= \$138,700 + (\$1.90 \text{ per machine-hour} \times 19,000 \text{ machine-hours}) \\ &= \$138,700 + \$36,100 = \$174,800 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$174,800 \div 19,000 \text{ machine-hours} = \$9.20 \text{ per machine-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$9.20 \text{ per machine-hour} \times 90 \text{ machine-hours} = \828

219) D

Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$\begin{aligned} &= \$102,400 + (\$2.30 \text{ per machine-hour} \times 16,000 \text{ machine-hours}) \\ &= \$102,400 + \$36,800 = \$139,200 \end{aligned}$$

220) C

Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$\begin{aligned} &= \$55,200 + (\$4.50 \text{ per direct labor-hour} \times 6,000 \text{ direct labor-hours}) \\ &= \$55,200 + \$27,000 = \$82,200 \end{aligned}$$

221) A

Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$\begin{aligned} &= \$102,400 + (\$2.30 \text{ per machine-hour} \times 16,000 \text{ machine-hours}) \\ &= \$102,400 + \$36,800 = \$139,200 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$139,200 \div 16,000 \text{ machine-hours} = \$8.70 \text{ per machine-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$8.70 \text{ per machine-hour} \times 70 \text{ machine-hours} = \609

Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$\begin{aligned} &= \$55,200 + (\$4.50 \text{ per direct labor-hour} \times 6,000 \text{ direct labor-hours}) \\ &= \$55,200 + \$27,000 = \$82,200 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$82,200 \div 6,000 \text{ direct labor-hours} = \$13.70 \text{ per direct labor-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$13.70 \text{ per direct labor-hour} \times 40 \text{ direct labor-hours} = \548

Overhead applied to Job T924

Forming Department	\$ 609
Assembly Department	548
	<hr/>

Total \$ 1,157

222) B

Forming Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 28,000
Estimated variable manufacturing overhead (\$1.80 per MH × 5,000 MHs)	9,000
Estimated total manufacturing overhead cost (a)	<u>\$ 37,000</u>
Estimated total machine-hours (b)	5,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 7.40 per MH

223) B

Assembly Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 10,500
Estimated variable manufacturing overhead (\$2.60 per MH × 5,000 MHs)	13,000
Estimated total manufacturing overhead cost (a)	<u>\$ 23,500</u>
Estimated total machine-hours (b)	5,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 4.70 per MH

224) D

Forming Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 28,000
Estimated variable manufacturing overhead (\$1.80 per MH × 5,000 MHs)	9,000
Estimated total manufacturing overhead cost (a)	<u>\$ 37,000</u>
Estimated total machine-hours (b)	5,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 7.40 per MH

Assembly Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 10,500
Estimated variable manufacturing overhead (\$2.60 per MH × 5,000 MHs)	13,000
Estimated total manufacturing overhead cost (a)	<u>\$ 23,500</u>
Estimated total machine-hours (b)	5,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 4.70 per MH

Manufacturing overhead applied to Job B:

Forming (\$7.40 per MH × 3,400 MHs)	\$ 25,160
Assembly (\$4.70 per MH × 2,000 MHs)	9,400
Total manufacturing overhead applied	<u>\$ 34,560</u>

225) C

Forming Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 28,000
Estimated variable manufacturing overhead (\$1.80 per MH × 5,000 MHs)	9,000
Estimated total manufacturing overhead cost (a)	<u>\$ 37,000</u>

Estimated total machine-hours (b)	5,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 7.40 per MH

Assembly Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 10,500
Estimated variable manufacturing overhead (\$2.60 per MH × 5,000 MHs)	13,000
Estimated total manufacturing overhead cost (a)	<u>\$ 23,500</u>

Estimated total machine-hours (b)	5,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 4.70 per MH

Manufacturing overhead applied to Job L:

Forming (\$7.40 per MH × 1,600 MHs)	\$ 11,840
Assembly (\$4.70 per MH × 3,000 MHs)	14,100
Total manufacturing overhead applied	<u>\$ 25,940</u>

226) A

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$\begin{aligned} &= \$42,000 + (\$4.30 \text{ per direct labor-hour} \times 5,000 \text{ direct labor-hours}) \\ &= \$42,000 + \$21,500 = \$63,500 \end{aligned}$$

227) D

Milling Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$\begin{aligned} &= \$119,000 + (\$1.60 \text{ per machine-hour} \times 17,000 \text{ machine-hours}) \\ &= \$119,000 + \$27,200 = \$146,200 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$146,200 \div 17,000 \text{ machine-hours} = \$8.60 \text{ per machine-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$8.60 \text{ per machine-hour} \times 90 \text{ machine-hours} = \774

228) B

Milling Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$\begin{aligned} &= \$112,200 + (\$1.70 \text{ per machine-hour} \times 17,000 \text{ machine-hours}) \\ &= \$112,200 + \$28,900 = \$141,100 \end{aligned}$$

229) C

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$\begin{aligned} &= \$81,000 + (\$4.30 \text{ per direct labor-hour} \times 9,000 \text{ direct labor-hours}) \\ &= \$81,000 + \$38,700 = \$119,700 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$119,700 \div 9,000 \text{ direct labor-hours} = \$13.30 \text{ per direct labor-hour}$

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$13.30 \text{ per direct labor-hour} \times 50 \text{ direct labor-hours} = \665

230) D

Milling Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$\begin{aligned} &= \$148,000 + (\$1.90 \text{ per machine-hour} \times 20,000 \text{ machine-hours}) \\ &= \$148,000 + \$38,000 = \$186,000 \end{aligned}$$

231) D

Finishing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$\begin{aligned} &= \$88,000 + (\$3.60 \text{ per direct labor-hour} \times 8,000 \text{ direct labor-hours}) \\ &= \$88,000 + \$28,800 = \$116,800 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$116,800 \div 8,000 \text{ direct labor-hours} = \$14.60 \text{ per direct labor-hour}$

232) C

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$\begin{aligned} &= \$8,600 + (\$3.10 \text{ per direct labor-hour} \times 2,000 \text{ direct labor-hours}) \\ &= \$8,600 + \$6,200 = \$14,800 \end{aligned}$$

233) C

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$\begin{aligned} &= \$68,600 + (\$4.30 \text{ per direct labor-hour} \times 7,000 \text{ direct labor-hours}) \\ &= \$68,600 + \$30,100 = \$98,700 \end{aligned}$$

234) A

Casting Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$\begin{aligned} &= \$152,000 + (\$2.10 \text{ per machine-hour} \times 20,000 \text{ machine-hours}) \\ &= \$152,000 + \$42,000 = \$194,000 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$194,000 \div 20,000 \text{ machine-hours} = \$9.70 \text{ per machine-hour}$

235) B

Casting Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$\begin{aligned} &= \$105,400 + (\$1.70 \text{ per machine-hour} \times 17,000 \text{ machine-hours}) \\ &= \$105,400 + \$28,900 = \$134,300 \end{aligned}$$

236) A

Finishing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$\begin{aligned} &= \$52,000 + (\$3.90 \text{ per direct labor-hour} \times 5,000 \text{ direct labor-hours}) \\ &= \$52,000 + \$19,500 = \$71,500 \end{aligned}$$

237) D

Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$\begin{aligned} &= \$100,700 + (\$2.00 \text{ per machine-hour} \times 19,000 \text{ machine-hours}) \\ &= \$100,700 + \$38,000 = \$138,700 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$138,700 \div 19,000 \text{ machine-hours} = \$7.30 \text{ per machine-hour}$

238) D

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$\begin{aligned} &= \$63,000 + (\$3.90 \text{ per direct labor-hour} \times 6,000 \text{ direct labor-hours}) \\ &= \$63,000 + \$23,400 = \$86,400 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base incurred = $\$86,400 \div 6,000 \text{ direct labor-hours} = \$14.40 \text{ per direct labor-hour}$

239) C

The first step is to calculate the estimated total overhead costs in the two departments.

Casting

Estimated fixed manufacturing overhead	\$ 17,700
Estimated variable manufacturing overhead (\$1.50 per MH × 3,000 MHs)	4,500
Estimated total manufacturing overhead cost	<u>\$ 22,200</u>

Assembly

Estimated fixed manufacturing overhead	\$ 5,800
Estimated variable manufacturing overhead (\$2.20 per MH × 2,000 MHs)	4,400
Estimated total manufacturing overhead cost	<u>\$ 10,200</u>

The second step is to combine the estimated manufacturing overhead costs in the two departments ($\$22,200 + \$10,200 = \$32,400$) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$ 32,400
Estimated total machine hours	5,000 MHs
Predetermined overhead rate	\$ 6.48 per MH

240) B

Casting Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 17,700
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Estimated variable manufacturing overhead (\$1.50 per MH × 3,000 MHs)	4,500
Estimated total manufacturing overhead cost (a)	\$ 22,200
Estimated total machine-hours (b)	3,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 7.40 per MH

241) C

Assembly Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 5,800
Estimated variable manufacturing overhead (\$2.20 per MH × 2,000 MHs)	4,400
Estimated total manufacturing overhead cost (a)	\$ 10,200
Estimated total machine-hours (b)	2,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 5.10 per MH

242) Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$144,000 + (\$4.00 per machine-hour × 30,000 machine-hours) = \$144,000 + \$120,000 = \$264,000

243) a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$287,000 + (\$3.50 per machine-hour × 70,000 machine-hours) = \$287,000 + \$245,000 = \$532,000

b. Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$532,000 ÷ 70,000 machine-hours = \$7.60 per machine-hour

244) Estimated total manufacturing overhead = \$1,043,200 + (\$8.30 per labor-hour × 64,000 labor-hours) = \$1,574,400

Predetermined overhead rate = \$1,574,400 ÷ 64,000 labor-hours = \$24.60 per labor-hour

245) Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base \times Estimated total amount of the allocation base) = $\$390,000 + (\$3.60 \text{ per machine-hour} \times 50,000 \text{ machine-hours}) = \$390,000 + \$180,000 = \$570,000$

Predetermined overhead rate = Estimated total manufacturing overhead cost \div Estimated total amount of the allocation base = $\$570,000 \div 50,000 \text{ machine-hours} = \$11.40 \text{ per machine-hour}$

246) Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base \times Estimated total amount of the allocation base) = $\$248,000 + (\$3.80 \text{ per machine-hour} \times 40,000 \text{ machine-hours}) = \$248,000 + \$152,000 = \$400,000$

Predetermined overhead rate = Estimated total manufacturing overhead cost \div Estimated total amount of the allocation base = $\$400,000 \div 40,000 \text{ machine-hours} = \$10.00 \text{ per machine-hour}$

247) Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base \times Estimated total amount of the allocation base) = $\$152,000 + (\$3.10 \text{ per machine-hour} \times 40,000 \text{ machine-hours}) = \$152,000 + \$124,000 = \$276,000$

248) a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base \times Estimated total amount of the allocation base) = $\$31,000 + (\$2.50 \text{ per direct labor-hour} \times 10,000 \text{ direct labor-hours}) = \$31,000 + \$25,000 = \$56,000$

b. Predetermined overhead rate = Estimated total manufacturing overhead cost \div Estimated total amount of the allocation base = $\$56,000 \div 10,000 \text{ direct labor-hours} = \$5.60 \text{ per direct labor-hour}$

249) Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$88,200 + (\$2.90 per direct labor-hour × 63,000 direct labor-hours) = \$88,200 + \$182,700 = \$270,900

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$270,900 ÷ 63,000 direct labor-hours = \$4.30 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$4.30 per direct labor-hour × 210 direct labor-hours = \$903

250) Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$160,000 + (\$2.30 per direct labor-hour × 80,000 direct labor-hours) = \$160,000 + \$184,000 = \$344,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$344,000 ÷ 80,000 direct labor-hours = \$4.30 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$4.30 per direct labor-hour × 120 direct labor-hours = \$516

251)

Estimated total fixed manufacturing overhead (a)	\$358,000
Estimated activity level (b)	20,000 machine-hours
Predetermined overhead rate (a) ÷ (b)	<hr/> \$ 17.90 per machine-hour
Actual activity level	18,300 machine-hours
Manufacturing overhead applied	<hr/> \$327,570

252) a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base \times Estimated total amount of the allocation base) = \$96,000 + (\$3.30 per direct labor-hour \times 60,000 direct labor-hours) = \$96,000 + \$198,000 = \$294,000

b. Predetermined overhead rate = Estimated total manufacturing overhead cost \div Estimated total amount of the allocation base = \$294,000 \div 60,000 direct labor-hours = \$4.90 per direct labor-hour

c. Overhead applied to a particular job = Predetermined overhead rate \times Amount of the allocation base incurred by the job = \$4.90 per direct labor-hour \times 100 direct labor-hours = \$490

253) Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base \times Estimated total amount of the allocation base) = \$50,000 + (\$3.90 per machine-hour \times 10,000 machine-hours) = \$50,000 + \$39,000 = \$89,000

Predetermined overhead rate = Estimated total manufacturing overhead cost \div Estimated total amount of the allocation base = \$89,000 \div 10,000 machine-hours = \$8.90 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate \times Amount of the allocation base incurred by the job = \$8.90 per machine-hour \times 160 machine-hours = \$1,424

254) a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$342,000 + (\$2.40 per direct labor-hour × 60,000 direct labor-hours) = \$342,000 + \$144,000 = \$486,000

b. Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$486,000 ÷ 60,000 direct labor-hours = \$8.10 per direct labor-hour

c. Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$8.10 per direct labor-hour × 90 direct labor-hours = \$729

255)

Estimated total fixed manufacturing overhead	\$ 114,000
(a)	
Estimated activity level (b)	10,000 machine-hours
Predetermined overhead rate (a) ÷ (b)	<u>\$ 11.40 per machine-hour</u>
Actual activity level	9,400 machine-hours
Manufacturing overhead applied	<u>\$ 107,160</u>

256) The first step is to calculate the estimated total overhead costs in the two departments.

Casting

Estimated fixed manufacturing overhead	\$11,600
Estimated variable manufacturing overhead (\$1.90 per MH × 2,000 MHs)	3,800
Estimated total manufacturing overhead cost	<u>\$15,400</u>

Customizing

Estimated fixed manufacturing overhead	\$ 7,200
Estimated variable manufacturing overhead (\$2.80 per MH × 3,000 MHs)	8,400
Estimated total manufacturing overhead cost	<u>\$15,600</u>

The second step is to combine the estimated manufacturing overhead costs in the two departments ($\$15,400 + \$15,600 = \$31,000$) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$31,000
Estimated total machine hours	5,000 MHs
Predetermined overhead rate	\$ 6.20 per MH

The overhead applied to Job F is calculated as follows:

$$\begin{aligned} \text{Overhead applied to a particular job} &= \text{Predetermined overhead rate} \times \\ &\text{Machine-hours incurred by the job} \\ &= \$6.20 \text{ per MH} \times (1,400 \text{ MHs} + 1,200 \text{ MHs}) \\ &= \$6.20 \text{ per MH} \times (2,600 \text{ MHs}) \\ &= \$16,120 \end{aligned}$$

The overhead applied to Job L is calculated as follows:

$$\begin{aligned} \text{Overhead applied to a particular job} &= \text{Predetermined overhead rate} \times \\ &\text{Machine-hours incurred by the job} \\ &= \$6.20 \text{ per MH} \times (600 \text{ MHs} + 1,800 \text{ MHs}) \\ &= \$6.20 \text{ per MH} \times (2,400 \text{ MHs}) \\ &= \$14,880 \end{aligned}$$

Job F's manufacturing cost:

Direct materials	\$ 10,600
Direct labor cost	24,400
Manufacturing overhead applied	16,120
Total manufacturing cost	<u>\$ 51,120</u>

Job L's manufacturing cost:

Direct materials	\$ 6,600
Direct labor cost	8,600
Manufacturing overhead applied	14,880
Total manufacturing cost	<u>\$30,080</u>

The selling price for Job F:

Total manufacturing cost	\$ 51,120
Markup (50%)	25,560
Selling price	<u>\$ 76,680</u>

The selling price for Job L:

Total manufacturing cost	\$ 30,080
Markup (50%)	15,040
Selling price	<u>\$ 45,120</u>

257) a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$460,000 + (\$3.10 per machine-hour × 50,000 machine-hours) = \$460,000 + \$155,000 = \$615,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$615,000 ÷ 50,000 machine-hours = \$12.30 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$12.30 per machine-hour × 150 machine-hours = \$1,845

b.

Direct materials	\$ 740
Direct labor	6,000
Manufacturing overhead applied	1,845
Total cost of Job P647	<u>\$8,585</u>

c.

Total cost of Job P647 (a)	\$ 8,585
Number of units (b)	50
Unit product cost (a) ÷ (b)	\$171.70

258) Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$390,000 + (\$4.40 per direct labor-hour × 50,000 direct labor-hours) = \$390,000 + \$220,000 = \$610,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$610,000 ÷ 50,000 direct labor-hours = \$12.20 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$12.20 per direct labor-hour × 300 direct labor-hours = \$3,660

Direct materials	\$ 600
Direct labor	7,000
Manufacturing overhead applied	3,660
Total cost of Job X941	<u>\$11,260</u>
Total cost of Job X941 (a)	<u>\$ 11,260</u>
Number of units (b)	50
Unit product cost (a) ÷ (b)	\$225.20
Unit product cost for Job X941	\$ 225.20
Markup (20% × \$225.20)	45.04
Selling price	<u>\$ 270.24</u>

259) Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$182,000 + (\$2.50 per direct labor-hour × 20,000 direct labor-hours) = \$182,000 + \$50,000 = \$232,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$232,000 ÷ 20,000 direct labor-hours = \$11.60 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$11.60 per direct labor-hour × 250 direct labor-hours = \$2,900

Direct materials	\$ 740
Direct labor	6,500
Manufacturing overhead applied	2,900
Total cost of Job X941	<u>\$10,140</u>
Total cost of Job X941 (a)	<u>\$ 10,140</u>
Number of units (b)	50
Unit product cost (a) ÷ (b)	\$ 202.80
Unit product cost for Job X941	\$ 202.80
Markup (20% × \$202.80)	40.56
Selling price	<u>\$ 243.36</u>

260) Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$630,000 + (\$3.40 per machine-hour × 70,000 machine-hours) = \$630,000 + \$238,000 = \$868,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$868,000 ÷ 70,000 machine-hours = \$12.40 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$12.40 per machine-hour × 200 machine-hours = \$2,480

Direct materials	\$ 670
Direct labor	7,800
Manufacturing overhead applied	2,480
Total cost of Job X159	<u>\$10,950</u>

261) a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$156,000 + (\$2.20 per machine-hour × 40,000 machine-hours) = \$156,000 + \$88,000 = \$244,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$244,000 ÷ 40,000 machine-hours = \$6.10 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$6.10 per machine-hour × 60 machine-hours = \$366

Direct materials	\$ 725
Direct labor	1,680
Manufacturing overhead applied	366
Total cost of Job M242	\$2,771

b.

Total cost of Job M242 (a)	\$ 2,771
Number of units (b)	20
Unit product cost (a) ÷ (b)	\$138.55

262) a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$71,000 + (\$2.50 per machine-hour × 10,000 machine-hours) = \$71,000 + \$25,000 = \$96,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$96,000 ÷ 10,000 machine-hours = \$9.60 per machine-hour

b. Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$9.60 per machine-hour × 60 machine-hours = \$576

c.

Direct materials	\$ 870
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Direct labor	2,400
Manufacturing overhead applied	576
Total cost of Job P512	\$3,846

d.

Total cost of Job P512 (a)	\$ 3,846
Number of units (b)	30
Unit product cost (a) ÷ (b)	\$128.20

263) a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$136,000 + (\$2.90 per machine-hour × 40,000 machine-hours) = \$136,000 + \$116,000 = \$252,000

b. Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$252,000 ÷ 40,000 machine-hours = \$6.30 per machine-hour

c. Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$6.30 per machine-hour × 300 machine-hours = \$1,890

d.

Direct materials	\$ 585
Direct labor	7,200
Manufacturing overhead applied	1,890
Total cost of Job A290	\$9,675

264) Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$342,000 + (\$2.70 per machine-hour × 60,000 machine-hours) = \$342,000 + \$162,000 = \$504,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$504,000 ÷ 60,000 machine-hours = \$8.40 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$8.40 per machine-hour × 140 machine-hours = \$1,176

Direct materials	\$ 945
Direct labor	2,800
Manufacturing overhead applied	1,176
Total cost of Job M238	\$4,921

265) a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$96,000 + (\$3.60 per direct labor-hour × 10,000 direct labor-hours) = \$96,000 + \$36,000 = \$132,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$132,000 ÷ 10,000 direct labor-hours = \$13.20 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$13.20 per direct labor-hour × 200 direct labor-hours = \$2,640

b.

Direct materials	\$ 540
Direct labor	6,400
Manufacturing overhead applied	2,640
Total cost of Job A735	\$9,580

c.

Total cost of Job A735 (a)	\$ 9,580
Number of units (b)	40
Unit product cost (a) ÷ (b)	\$ 239.50

266) a. The first step is to calculate the estimated total overhead costs in the two departments.

Molding

Estimated fixed manufacturing overhead	\$ 21,000
Estimated variable manufacturing overhead (\$1.50 per MH × 5,000 MHs)	7,500
Estimated total manufacturing overhead cost	\$ 28,500

Customizing

Estimated fixed manufacturing overhead	\$ 14,000
Estimated variable manufacturing overhead (\$2.40 per MH × 5,000 MHs)	12,000
Estimated total manufacturing overhead cost	\$ 26,000

The second step is to combine the estimated manufacturing overhead costs in the two departments (\$28,500 + \$26,000 = \$54,500) to calculate the *plantwide* predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$54,500
Estimated total machine hours	10,000 MHs
Predetermined overhead rate	\$5.45 per MH

b. The overhead applied to Job F is calculated as follows:

$$\begin{aligned} \text{Overhead applied to a particular job} &= \text{Predetermined overhead rate} \times \\ &\text{Machine-hours incurred by the job} \\ &= \$5.45 \text{ per MH} \times (3,400 \text{ MHs} + 2,000 \text{ MHs}) \\ &= \$5.45 \text{ per MH} \times (5,400 \text{ MHs}) \\ &= \$29,430 \end{aligned}$$

c. The overhead applied to Job K is calculated as follows:

$$\begin{aligned} \text{Overhead applied to a particular job} &= \text{Predetermined overhead rate} \times \\ &\text{Machine-hours incurred by the job} \\ &= \$5.45 \text{ per MH} \times (1,600 \text{ MHs} + 3,000 \text{ MHs}) \\ &= \$5.45 \text{ per MH} \times (4,600 \text{ MHs}) \\ &= \$25,070 \end{aligned}$$

d. Job F's manufacturing cost:

Direct materials	\$ 12,700
Direct labor cost	19,100
Manufacturing overhead applied	29,430
Total manufacturing cost	<u>\$ 61,230</u>

e. Job K's manufacturing cost:

Direct materials	\$ 6,400
Direct labor cost	7,900
Manufacturing overhead applied	25,070
Total manufacturing cost	<u>\$39,370</u>

f. The selling price for Job F:

Total manufacturing cost	\$ 61,230
Markup (30%)	18,369
Selling price	<u>\$ 79,599</u>

g. The selling price for Job K:

Total manufacturing cost	\$ 39,370
Markup (30%)	11,811
Selling price	<u>\$ 51,181</u>

h.

Total manufacturing cost assigned to Job F	\$ 61,230
Total manufacturing cost assigned to Job K	<u>39,370</u>

Cost of goods sold \$100,600

267) a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$308,000 + (\$2.10 per machine-hour × 70,000 machine-hours) = \$308,000 + \$147,000 = \$455,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$455,000 ÷ 70,000 machine-hours = \$6.50 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$6.50 per machine-hour × 100 machine-hours = \$650

Direct materials	\$ 555
Direct labor	2,700
Manufacturing overhead applied	650
Total cost of Job M556	<u><u>\$3,905</u></u>

b.

Total cost of Job M556 (a)	\$ 3,905
Number of units (b)	50
Unit product cost (a) ÷ (b)	\$ 78.10

268) a.

The first step is to calculate the estimated total overhead costs in the two departments.

Casting

Estimated fixed manufacturing overhead	\$ 18,000
Estimated variable manufacturing overhead (\$1.50 per MH × 4,000 MHs)	6,000
Estimated total manufacturing overhead cost	<u><u>\$ 24,000</u></u>

Finishing

Estimated fixed manufacturing overhead	\$ 18,000
Estimated variable manufacturing overhead (\$2.30 per MH × 6,000 MHs)	13,800
Estimated total manufacturing overhead cost	<u><u>\$ 31,800</u></u>

The second step is to combine the estimated manufacturing overhead costs in the two departments (\$24,000 + \$31,800 = \$55,800) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$55,800
Estimated total machine hours	10,000 MHs
Predetermined overhead rate	\$ 5.58 per MH

The overhead applied to Job D is calculated as follows:

$$\begin{aligned}
 &\text{Overhead applied to a particular job} = \text{Predetermined overhead rate} \times \\
 &\text{Machine-hours incurred by the job} \\
 &= \$5.58 \text{ per MH} \times (2,700 \text{ MHs} + 2,400 \text{ MHs}) \\
 &= \$5.58 \text{ per MH} \times (5,100 \text{ MHs}) \\
 &= \$28,458
 \end{aligned}$$

Job D's manufacturing cost:

Direct materials	\$ 14,300
Direct labor cost	21,700
Manufacturing overhead applied	28,458
Total manufacturing cost	<u><u>\$ 64,458</u></u>

b.

The overhead applied to Job J is calculated as follows:

$$\begin{aligned}
 &\text{Overhead applied to a particular job} = \text{Predetermined overhead rate} \times \\
 &\text{Machine-hours incurred by the job} \\
 &= \$5.58 \text{ per MH} \times (1,300 \text{ MHs} + 3,600 \text{ MHs}) \\
 &= \$5.58 \text{ per MH} \times (4,900 \text{ MHs}) \\
 &= \$27,342
 \end{aligned}$$

Job J's manufacturing cost:

Direct materials	\$ 6,800
Direct labor cost	8,800
Manufacturing overhead applied	27,342
Total manufacturing cost	<u><u>\$42,942</u></u>

269) a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$130,000 + (\$3.00 per machine-hour × 20,000 machine-hours) = \$130,000 + \$60,000 = \$190,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$190,000 ÷ 20,000 machine-hours = \$9.50 per machine-hour

b. Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$9.50 per machine-hour × 30 machine-hours = \$285

c.

Direct materials	\$ 775
Direct labor	1,170
Manufacturing overhead applied	285
Total cost of Job K789	\$2,230

d.

Total cost of Job K789 (a)	\$ 2,230
Number of units (b)	10
Unit product cost (a) ÷ (b)	\$223.00

270) a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$252,000 + (\$2.90 per machine-hour × 30,000 machine-hours) = \$252,000 + \$87,000 = \$339,000

b. Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$339,000 ÷ 30,000 machine-hours = \$11.30 per machine-hour

c. Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$11.30 per machine-hour × 210 machine-hours = \$2,373

d.

Direct materials	\$ 665
Direct labor	6,720
Manufacturing overhead applied	2,373
Total cost of Job T506	<u>\$9,758</u>

e.

Total cost of Job T506 (a)	\$ 9,758
Number of units (b)	70
Unit product cost (a) ÷ (b)	\$139.40

f.

Unit product cost for Job T506	\$ 139.40
Markup (20% × \$139.40)	27.88
Selling price	<u>\$ 167.28</u>

271) a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$76,000 + (\$2.10 per direct labor-hour × 10,000 direct labor-hours) = \$76,000 + \$21,000 = \$97,000

b. Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$97,000 ÷ 10,000 direct labor-hours = \$9.70 per direct labor-hour

c. Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$9.70 per direct labor-hour × 270 direct labor-hours = \$2,619

d.

Direct materials	\$ 590
Direct labor	6,480
Manufacturing overhead applied	2,619
Total cost of Job X701	<u>\$9,689</u>

272) Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$258,000 + (\$2.00 per direct labor-hour × 30,000 direct labor-hours) = \$258,000 + \$60,000 = \$318,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$318,000 ÷ 30,000 direct labor-hours = \$10.60 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$10.60 per direct labor-hour × 250 direct labor-hours = \$2,650

Direct materials	\$ 645
Direct labor	10,000
Manufacturing overhead applied	2,650
Total cost of Job P660	<u>\$13,295</u>
Total cost of Job P660 (a)	<u>\$ 13,295</u>
Number of units (b)	50
Unit product cost (a) ÷ (b)	\$ 265.90
Unit product cost for Job P660	\$ 265.90
Markup (20% × \$265.90)	53.18
Selling price	<u><u>\$ 319.08</u></u>

273) a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$215,000 + (\$3.80 per machine-hour × 50,000 machine-hours) = \$215,000 + \$190,000 = \$405,000

b. Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$405,000 ÷ 50,000 machine-hours = \$8.10 per machine-hour

c. Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$8.10 per machine-hour × 240 machine-hours = \$1,944

d.

Direct materials	\$ 735
Direct labor	8,880
Manufacturing overhead applied	1,944
Total cost of Job T496	\$11,559

e.

Total cost of Job T496 (a)	\$ 11,559
Number of units (b)	80
Unit product cost (a) ÷ (b)	\$ 144.49

274) Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$525,000 + (\$2.30 per machine-hour × 70,000 machine-hours) = \$525,000 + \$161,000 = \$686,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$686,000 ÷ 70,000 machine-hours = \$9.80 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$9.80 per machine-hour × 80 machine-hours = \$784

Direct materials	\$ 630
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Direct labor	2,080
Manufacturing overhead applied	784
Total cost of Job P987	<u>\$3,494</u>
Total cost of Job P987 (a)	<u>\$ 3,494</u>
Number of units (b)	20
Unit product cost (a) ÷ (b)	\$174.70

275) Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$238,000 + (\$2.70 per direct labor-hour × 70,000 direct labor-hours) = \$238,000 + \$189,000 = \$427,000

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$427,000 ÷ 70,000 direct labor-hours = \$6.10 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$6.10 per direct labor-hour × 200 direct labor-hours = \$1,220

Direct materials	\$ 630
Direct labor	4,800
Manufacturing overhead applied	1,220
Total cost of Job P873	<u>\$6,650</u>
Total cost of Job P873 (a)	<u>\$ 6,650</u>
Number of units (b)	50
Unit product cost (a) ÷ (b)	\$133.00

276) a.

Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base \times Estimated total amount of the allocation base) = \$88,000 + (\$3.20 per machine-hour \times 10,000 machine-hours) = \$88,000 + \$32,000 = \$120,000

b.

Predetermined overhead rate = Estimated total manufacturing overhead cost \div Estimated total amount of the allocation base = \$120,000 \div 10,000 machine-hours = \$12.00 per machine-hour

c.

Overhead applied to a particular job = Predetermined overhead rate \times Amount of the allocation base incurred by the job = \$12.00 per machine-hour \times 150 machine-hours = \$1,800

d.

Direct materials	\$ 580
Direct labor	3,900
Manufacturing overhead applied	1,800
Total cost of Job K418	<u>\$6,280</u>

e.

Total cost of Job K418 (a)	\$ 6,280
Number of units (b)	50
Unit product cost (a) \div (b)	\$125.60

f.

Unit product cost for Job K418	\$ 125.60
Markup (30% \times \$125.60)	37.68
Selling price	<u>\$ 163.28</u>

277) a. Estimated total manufacturing overhead cost = Estimated total fixed manufacturing overhead cost + (Estimated variable overhead cost per unit of the allocation base × Estimated total amount of the allocation base) = \$91,000 + (\$2.40 per machine-hour × 10,000 machine-hours) = \$91,000 + \$24,000 = \$115,000

b. Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the allocation base = \$115,000 ÷ 10,000 machine-hours = \$11.50 per machine-hour

c. Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$11.50 per machine-hour × 120 machine-hours = \$1,380

d.

Direct materials	\$ 645
Direct labor	3,720
Manufacturing overhead applied	1,380
Total cost of Job K373	\$5,745

e.

Total cost of Job K373 (a)	\$ 5,745
Number of units (b)	60
Unit product cost (a) ÷ (b)	\$ 95.75

278) Molding Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$26,400
Estimated variable manufacturing overhead (\$1.50 per MH × 12,000 MHs)	18,000
Estimated total manufacturing overhead cost (a)	\$44,400
Estimated total machine-hours (b)	12,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$3.70 per MH

Customizing Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$9,240
Estimated variable manufacturing overhead (\$2.00 per MH × 2,800 MHs)	5,600
Estimated total manufacturing overhead cost (a)	\$14,840
Estimated total machine-hours (b)	2,800 MHs

Departmental predetermined overhead rate (a) ÷ (b) \$5.30 per MH

Manufacturing overhead applied to Job C:

Molding (\$3.70 per MH × 2,500 MHs)	\$ 9,250
Customizing (\$5.30 per MH × 1,800 MHs)	9,540
Total manufacturing overhead applied	<u>\$ 18,790</u>

Manufacturing overhead applied to Job M:

Molding (\$3.70 per MH × 9,500 MHs)	\$ 35,150
Customizing (\$5.30 per MH × 1,000 MHs)	5,300
Total manufacturing overhead applied	<u>\$ 40,450</u>

The selling price for Job C would be calculated as follows:

Direct materials	\$ 15,800
Direct labor cost	22,600
Manufacturing overhead applied	18,790
Total manufacturing cost	<u>\$ 57,190</u>
Markup (20%)	11,438
Selling price	<u>\$ 68,628</u>

The selling price for Job M would be calculated as follows:

Direct materials	\$ 9,300
Direct labor cost	9,500
Manufacturing overhead applied	40,450
Total manufacturing cost	<u>\$59,250</u>
Markup (20%)	11,850
Selling price	<u>\$71,100</u>

279) Molding Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$15,900
Estimated variable manufacturing overhead (\$1.20 per MH × 3,000 MHs)	3,600
Estimated total manufacturing overhead cost (a)	<u>\$19,500</u>
Estimated total machine-hours (b)	3,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$6.50 per MH

Customizing Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$4,200
Estimated variable manufacturing overhead (\$2.40 per MH × 2,000 MHs)	4,800
Estimated total manufacturing overhead cost (a)	<u>\$9,000</u>
Estimated total machine-hours (b)	2,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$4.50 per MH

Manufacturing overhead applied to Job C:

Molding (\$6.50 per MH × 2,000 MHs)	\$ 13,000
Customizing (\$4.50 per MH × 800 MHs)	3,600
Total manufacturing overhead applied	<u><u>\$ 16,600</u></u>

Manufacturing overhead applied to Job M:

Molding (\$6.50 per MH × 1,000 MHs)	\$ 6,500
Customizing (\$4.50 per MH × 1,200 MHs)	5,400
Total manufacturing overhead applied	<u><u>\$11,900</u></u>

The selling price for Job C would be calculated as follows:

Direct materials	\$ 15,600
Direct labor cost	25,100
Manufacturing overhead applied	16,600
Total manufacturing cost	<u>\$ 57,300</u>
Markup (20%)	11,460
Selling price	<u><u>\$ 68,760</u></u>

The selling price for Job M would be calculated as follows:

Direct materials	\$ 8,600
Direct labor cost	8,300
Manufacturing overhead applied	11,900
Total manufacturing cost	<u>\$28,800</u>
Markup (20%)	5,760
	<u><u>5,760</u></u>

Selling price

\$34,560

280) Forming Department:

Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$\begin{aligned} &= \$102,400 + (\$1.90 \text{ per machine-hour} \times 16,000 \text{ machine-hours}) \\ &= \$102,400 + \$30,400 = \$132,800 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $\$132,800 \div 16,000$ machine-hours = \$8.30 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$8.30 per machine-hour × 50 machine-hours = \$415

Assembly Department:

Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$\begin{aligned} &= \$66,000 + (\$3.80 \text{ per direct labor-hour} \times 6,000 \text{ direct labor-hours}) \\ &= \$66,000 + \$22,800 = \$88,800 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $\$88,800 \div 6,000$ direct labor-hours = \$14.80 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$14.80 per direct labor-hour × 40 direct labor-hours = \$592

Overhead applied to Job A950

Forming Department	\$ 415
Assembly Department	592
Total	<u>\$1,007</u>

	Forming	Assembly	Total
Direct materials	\$ 665	\$ 415	\$1,080
Direct labor	\$ 520	\$1,040	1,560
Manufacturing overhead applied	\$ 415	\$ 592	1,007
Total cost of Job A950			<u>\$3,647</u>
Total cost of Job A950	\$ 3,647.00		
Markup (\$3,647.00 × 30%)	1,094.10		
Selling price	<u>\$ 4,741.10</u>		

281) a. Milling Department:

Milling Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$= \$91,800 + (\$2.00 \text{ per machine-hour} \times 17,000 \text{ machine-hours}) \\ = \$91,800 + \$34,000 = \$125,800$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $\$125,800 \div 17,000$ machine-hours = \$7.40 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$7.40 per machine-hour × 70 machine-hours = \$518

Finishing Department:

Finishing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$= \$64,200 + (\$3.40 \text{ per direct labor-hour} \times 6,000 \text{ direct labor-hours}) \\ = \$64,200 + \$20,400 = \$84,600$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $\$84,600 \div 6,000$ direct labor-hours = \$14.10 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$14.10 per direct labor-hour × 40 direct labor-hours = \$564

Overhead applied to Job M565

Milling Department	\$ 518
Finishing Department	564
Total	<u><u>\$1,082</u></u>

b.

	Milling	Finishing	Total
Direct materials	\$ 750	\$ 360	\$ 1,110
Direct labor	\$ 340	\$1,360	1,700
Manufacturing overhead applied	\$ 518	\$ 564	1,082
Total cost of Job M565			<u>\$ 3,892</u>

c.

Total cost of Job M565	\$ 3,892.00
Markup (\$3,892.00 × 20%)	778.40
Selling price	<u>\$ 4,670.40</u>

282) Forming Department:

Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$\begin{aligned} &= \$91,200 + (\$2.10 \text{ per machine-hour} \times 16,000 \text{ machine-hours}) \\ &= \$91,200 + \$33,600 = \$124,800 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $\$124,800 \div 16,000$ machine-hours = \$7.80 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$7.80 per machine-hour × 50 machine-hours = \$390

Customizing Department:

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$\begin{aligned} &= \$99,000 + (\$3.10 \text{ per direct labor-hour} \times 9,000 \text{ direct labor-hours}) \\ &= \$99,000 + \$27,900 = \$126,900 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $\$126,900 \div 9,000$ direct labor-hours = \$14.10 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$14.10 per direct labor-hour × 50 direct labor-hours = \$705

Overhead applied to Job M109

Forming Department	\$ 390
Customizing Department	705
Total	<u>\$1,095</u>

	Forming	Customizing	Total
Direct materials	\$ 915	\$ 355	\$ 1,270
Direct labor	\$ 620	\$1,550	2,170
Manufacturing overhead applied	\$ 390	\$ 705	1,095
Total cost of Job M109			<u>\$ 4,535</u>

283) a. Casting Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$\begin{aligned} &= \$119,000 + (\$2.10 \text{ per machine-hour} \times 17,000 \text{ machine-hours}) \\ &= \$119,000 + \$35,700 = \$154,700 \end{aligned}$$

b. Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$\begin{aligned} &= \$51,000 + (\$3.10 \text{ per direct labor-hour} \times 6,000 \text{ direct labor-hours}) \\ &= \$51,000 + \$18,600 = \$69,600 \end{aligned}$$

c. Casting Department:

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $\$154,700 \div 17,000$ machine-hours = \$9.10 per machine-hour

d. Assembly Department:

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $\$69,600 \div 6,000$ direct labor-hours = \$11.60 per direct labor-hour

e. Casting Department: Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$9.10 \text{ per machine-hour} \times 50 \text{ machine-hours} = \455

Assembly Department: Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$11.60 \text{ per direct labor-hour} \times 50 \text{ direct labor-hours} = \580

Overhead applied to Job A182

Casting Department	\$ 455
Assembly Department	580
Total	<u><u>\$1,035</u></u>

f.

	Casting	Assembly	Total
Direct materials	\$ 895	\$ 365	\$ 1,260
Direct labor	\$ 240	\$1,200	1,440
Manufacturing overhead applied	\$ 455	\$ 580	1,035
Total cost of Job A182			<u><u>\$ 3,735</u></u>

g.

Total cost of Job A182	\$ 3,735.00
Markup (\$3,735.00 × 20%)	747.00
Selling price	<u><u>\$ 4,482.00</u></u>

284) a.

The first step is to calculate the estimated total overhead costs in the two departments.

Forming

Estimated fixed manufacturing overhead	\$ 8,000
Estimated variable manufacturing overhead (\$3.00 per MH × 4,000 MHs)	12,000
Estimated total manufacturing overhead cost	<u><u>\$ 20,000</u></u>

Customizing

Estimated fixed manufacturing overhead	\$ 15,000
Estimated variable manufacturing overhead (\$6.00 per MH × 6,000 MHs)	36,000
Estimated total manufacturing overhead cost	<u><u>\$ 51,000</u></u>

The second step is to combine the estimated manufacturing overhead costs in the two departments (\$20,000 + \$51,000 = \$71,000) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$71,000
Estimated total machine hours	10,000 MHs
Predetermined overhead rate	\$ 7.10 per MH

b.

The overhead applied to Job L is calculated as follows:

$$\begin{aligned} \text{Overhead applied to a particular job} &= \text{Predetermined overhead rate} \times \\ &\text{Machine-hours incurred by the job} \\ &= \$7.10 \text{ per MH} \times (2,750 \text{ MHs} + 4,750 \text{ MHs}) \\ &= \$7.10 \text{ per MH} \times (7,500 \text{ MHs}) \\ &= \$53,250 \end{aligned}$$

c.

Job L's manufacturing cost:

Direct materials	\$ 9,400
Direct labor cost	9,700
Manufacturing overhead applied	53,250
Total manufacturing cost	<u>\$72,350</u>

d.

The selling price for Job L:

Total manufacturing cost	\$ 72,350
Markup (80%)	57,880
Selling price	<u>\$130,230</u>

e.

Forming Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 8,000
Estimated variable manufacturing overhead (\$3.00 per MH × 4,000 MHs)	12,000
Estimated total manufacturing overhead cost (a)	<u>\$20,000</u>
Estimated total machine-hours (b)	4,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 5.00 per MH

f.

Customizing Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 15,000
Estimated variable manufacturing overhead (\$6.00 per MH × 6,000 MHs)	36,000
Estimated total manufacturing overhead cost (a)	<u>\$51,000</u>

Estimated total machine-hours (b)	6,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 8.50 per MH

g.

Manufacturing overhead applied to Job L:

Forming (\$5.00 per MH × 2,750 MHs)	\$ 13,750
Customizing (\$8.50 per MH × 4,750 MHs)	40,375
Total manufacturing overhead applied	<u>\$ 54,125</u>

h.

The selling price for Job L would be calculated as follows:

Direct materials	\$ 9,400
Direct labor cost	9,700
Manufacturing overhead applied	54,125
Total manufacturing cost	<u>\$73,225</u>
Markup (80%)	58,580
Selling price	<u>\$131,805</u>

285) a.

The first step is to calculate the estimated total overhead costs in the two departments.

Forming

Estimated fixed manufacturing overhead	\$ 50,400
Estimated variable manufacturing overhead (\$1.70 per MH × 9,000 MHs)	15,300
Estimated total manufacturing overhead cost	<u>\$ 65,700</u>

Customizing

Estimated fixed manufacturing overhead	\$ 2,600
Estimated variable manufacturing overhead (\$2.10 per MH × 1,000 MHs)	2,100
Estimated total manufacturing overhead cost	<u>\$ 4,700</u>

The second step is to combine the estimated manufacturing overhead costs in the two departments (\$65,700 + \$4,700 = \$70,400) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$ 70,400
Estimated total machine hours	10,000 MHs
Predetermined overhead rate	\$7.04 per MH

b.

The overhead applied to Job L is calculated as follows:

$$\begin{aligned} \text{Overhead applied to a particular job} &= \text{Predetermined overhead rate} \times \\ &\text{Machine-hours incurred by the job} \\ &= \$7.04 \text{ per MH} \times (2,900 \text{ MHs} + 600 \text{ MHs}) \\ &= \$7.04 \text{ per MH} \times (3,500 \text{ MHs}) \\ &= \$24,640 \end{aligned}$$

c.

Job L's manufacturing cost:

Direct materials	\$6,900
Direct labor cost	8,500
Manufacturing overhead applied	24,640
Total manufacturing cost	<u>\$40,040</u>

d.

The selling price for Job L:

Total manufacturing cost	\$ 40,040
Markup (80%)	32,032
Selling price	<u>\$ 72,072</u>

e.

Forming Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 50,400
Estimated variable manufacturing overhead (\$1.70 per MH × 9,000 MHs)	15,300
Estimated total manufacturing overhead cost (a)	<u>\$ 65,700</u>
Estimated total machine-hours (b)	9,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$7.30 per MH

f.

Customizing Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$2,600
Estimated variable manufacturing overhead (\$2.10 per MH × 1,000 MHs)	2,100
Estimated total manufacturing overhead cost (a)	<u>\$4,700</u>

Estimated total machine-hours (b) 1,000 MHs

Departmental predetermined overhead rate (a) ÷ (b) \$ 4.70 per MH

g.

Manufacturing overhead applied to Job L:

Forming (\$7.30 per MH × 2,900 MHs)	\$ 21,170
Customizing (\$4.70 per MH × 600 MHs)	2,820
Total manufacturing overhead applied	<u>\$ 23,990</u>

h.

The selling price for Job L would be calculated as follows:

Direct materials	\$ 6,900
Direct labor cost	8,500
Manufacturing overhead applied	23,990
Total manufacturing cost	<u>\$ 39,390</u>
Markup (80%)	31,512
Selling price	<u>\$ 70,902</u>

286) a.

Machining Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 4,200
Estimated variable manufacturing overhead (\$1.90 per MH × 1,000 MHs)	1,900
Estimated total manufacturing overhead cost (a)	<u>\$ 6,100</u>
Estimated total machine-hours (b)	1,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$6.10 per MH

b. Finishing Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$ 8,800
Estimated variable manufacturing overhead (\$2.90 per MH × 4,000 MHs)	11,600
Estimated total manufacturing overhead cost (a)	<u>\$ 20,400</u>
Estimated total machine-hours (b)	4,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$5.10 per MH

c. Manufacturing overhead applied to Job E:

Machining (\$6.10 per MH × 700 MHs)	\$ 4,270
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Finishing (\$5.10 per MH × 1,600 MHs)	8,160
Total manufacturing overhead applied	<u>\$ 12,430</u>

d. Manufacturing overhead applied to Job G:

Machining (\$6.10 per MH × 300 MHs)	\$ 1,830
Finishing (\$5.10 per MH × 2,400 MHs)	12,240
Total manufacturing overhead applied	<u>\$ 14,070</u>

e.

The selling price for Job E would be calculated as follows:

Direct materials	\$ 11,800
Direct labor cost	19,200
Manufacturing overhead applied	12,430
Total manufacturing cost	<u>\$ 43,430</u>
Markup (80%)	34,744
Selling price	<u>\$ 78,174</u>

f.

The selling price for Job G would be calculated as follows:

Direct materials	\$ 8,000
Direct labor cost	6,700
Manufacturing overhead applied	14,070
Total manufacturing cost	<u>\$28,770</u>
Markup (80%)	23,016
Selling price	<u>\$51,786</u>

g.

Total manufacturing cost Job E	\$ 43,430
Total manufacturing cost Job G	28,770
Cost of goods sold	<u>\$ 72,200</u>

287) a. Casting Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$\begin{aligned} &= \$110,000 + (\$1.60 \text{ per machine-hour} \times 20,000 \text{ machine-hours}) \\ &= \$110,000 + \$32,000 = \$142,000 \end{aligned}$$

b.

Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$\begin{aligned} &= \$65,400 + (\$4.50 \text{ per direct labor-hour} \times 6,000 \text{ direct labor-hours}) \\ &= \$65,400 + \$27,000 = \$92,400 \end{aligned}$$

c.

Casting Department:

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $\$142,000 \div 20,000$ machine-hours = \$7.10 per machine-hour

d.

Assembly Department:

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $\$92,400 \div 6,000$ direct labor-hours = \$15.40 per direct labor-hour

e.

Casting Department:

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$7.10 \text{ per machine-hour} \times 60 \text{ machine-hours} = \426

f.

Assembly Department:

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$15.40 per direct

labor-hour \times 40 direct labor-hours = \$616

g.

	Casting	Assembly	Total
Direct materials	\$ 950	\$ 305	\$ 1,255
Direct labor	\$ 460	\$ 920	1,380
Manufacturing overhead applied	\$ 426	\$ 616	1,042
Total cost of Job K246			<u>\$ 3,677</u>

h.

Total cost of Job K246	\$ 3,677.00
Markup (\$3,677.00 \times 40%)	1,470.80
Selling price	<u>\$ 5,147.80</u>

288) a.

The first step is to calculate the estimated total overhead costs in the two departments.

Forming

Estimated fixed manufacturing overhead	\$ 36,800
Estimated variable manufacturing overhead (\$1.60 per MH \times 8,000 MHs)	12,800
Estimated total manufacturing overhead cost	<u>\$ 49,600</u>

Customizing

Estimated fixed manufacturing overhead	\$ 4,800
Estimated variable manufacturing overhead (\$2.90 per MH \times 2,000 MHs)	5,800
Estimated total manufacturing overhead cost	<u>\$10,600</u>

The second step is to combine the estimated manufacturing overhead costs in the two departments (\$49,600 + \$10,600 = \$60,200) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$60,200
Estimated total machine hours	10,000 MHs
Predetermined overhead rate	\$ 6.02 per MH

The overhead applied to Job D is calculated as follows:

$$\begin{aligned} \text{Overhead applied to a particular job} &= \text{Predetermined overhead rate} \times \\ \text{Machine-hours incurred by the job} & \\ &= \$6.02 \text{ per MH} \times (5,400 \text{ MHs} + 800 \text{ MHs}) \\ &= \$6.02 \text{ per MH} \times (6,200 \text{ MHs}) \\ &= \$37,324 \end{aligned}$$

The selling price for Job D:

Direct materials	\$ 15,600
Direct labor cost	19,100
Manufacturing overhead applied	37,324
Total manufacturing cost	\$ 72,024
Markup (50%)	36,012
Selling price	\$108,036

b.

The overhead applied to Job K is calculated as follows:

$$\begin{aligned} \text{Overhead applied to a particular job} &= \text{Predetermined overhead rate} \times \\ \text{Machine-hours incurred by the job} & \\ &= \$6.02 \text{ per MH} \times (2,600 \text{ MHs} + 1,200 \text{ MHs}) \\ &= \$6.02 \text{ per MH} \times (3,800 \text{ MHs}) \\ &= \$22,876 \end{aligned}$$

Job K's manufacturing cost:

Direct materials	\$ 6,900
Direct labor cost	8,700
Manufacturing overhead applied	22,876
Total manufacturing cost	\$38,476

The selling price for Job K:

Total manufacturing cost	\$ 38,476
Markup (50%)	19,238
Selling price	\$ 57,714

c.

Forming Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$36,800
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Estimated variable manufacturing overhead (\$1.60 per MH × 8,000 MHs)	12,800
Estimated total manufacturing overhead cost (a)	<u>\$49,600</u>

Estimated total machine-hours (b)	8,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 6.20 per MH

Customizing Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$4,800
Estimated variable manufacturing overhead (\$2.90 per MH × 2,000 MHs)	5,800
Estimated total manufacturing overhead cost (a)	<u>\$10,600</u>

Estimated total machine-hours (b)	2,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 5.30 per MH

Manufacturing overhead applied to Job D:

Forming (\$6.20 per MH × 5,400 MHs)	\$ 33,480
Customizing (\$5.30 per MH × 800 MHs)	4,240
Total manufacturing overhead applied	<u>\$ 37,720</u>

The selling price for Job D would be calculated as follows:

Direct materials	\$15,600
Direct labor cost	19,100
Manufacturing overhead applied	37,720
Total manufacturing cost	\$72,420
Markup (50%)	36,210
Selling price	<u>\$108,630</u>

d.

Manufacturing overhead applied to Job K:

Forming (\$6.20 per MH × 2,600 MHs)	\$ 16,120
Customizing (\$5.30 per MH × 1,200 MHs)	6,360
Total manufacturing overhead applied	<u>\$ 22,480</u>

The selling price for Job K would be calculated as follows:

Direct materials	\$ 6,900
Direct labor cost	8,700
Manufacturing overhead applied	22,480
Total manufacturing cost	<u>\$38,080</u>
Markup (50%)	19,040
Selling price	<u>\$57,120</u>

289) a.

The first step is to calculate the estimated total overhead costs in the two departments.

Molding

Estimated fixed manufacturing overhead	\$ 22,000
Estimated variable manufacturing overhead (\$3.00 per MH × 4,000 MHs)	12,000
Estimated total manufacturing overhead cost	<u>\$ 34,000</u>

Assembly

Estimated fixed manufacturing overhead	\$ 20,400
Estimated variable manufacturing overhead (\$6.00 per MH × 6,000 MHs)	36,000
Estimated total manufacturing overhead cost	<u>\$ 56,400</u>

The second step is to combine the estimated manufacturing overhead costs in the two departments (\$34,000 + \$56,400 = \$90,400) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$90,400
Estimated total machine hours	10,000 MHs
Predetermined overhead rate	\$ 9.04 per MH

b.

The overhead applied to Job E is calculated as follows:

$$\begin{aligned} \text{Overhead applied to a particular job} &= \text{Predetermined overhead rate} \times \\ &\text{Machine-hours incurred by the job} \\ &= \$9.04 \text{ per MH} \times (2,500 \text{ MHs} + 1,250 \text{ MHs}) \\ &= \$9.04 \text{ per MH} \times (3,750 \text{ MHs}) \\ &= \$33,900 \end{aligned}$$

c.

Job E's manufacturing cost:

Direct materials	\$ 22,500
Direct labor cost	22,700
Manufacturing overhead applied	33,900
Total manufacturing cost	<u>\$ 79,100</u>

d.

The selling price for Job E:

Total manufacturing cost	\$ 79,100
Markup (80%)	63,280
Selling price	<u>\$142,380</u>

e.

Molding Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$22,000
Estimated variable manufacturing overhead (\$3.00 per MH × 4,000 MHs)	12,000
Estimated total manufacturing overhead cost (a)	<u>\$34,000</u>
Estimated total machine-hours (b)	4,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 8.50 per MH

f.

Assembly Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$20,400
Estimated variable manufacturing overhead (\$6.00 per MH × 6,000 MHs)	36,000
Estimated total manufacturing overhead cost (a)	<u>\$56,400</u>
Estimated total machine-hours (b)	6,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 9.40 per MH

g.

Manufacturing overhead applied to Job E:

Molding (\$8.50 per MH × 2,500 MHs)	\$ 21,250
Assembly (\$9.40 per MH × 1,250 MHs)	11,750
Total manufacturing overhead applied	<u>\$ 33,000</u>

h.

The selling price for Job E would be calculated as follows:

Direct materials	\$ 22,500
Direct labor cost	22,700
Manufacturing overhead applied	33,000
Total manufacturing cost	<u>\$ 78,200</u>
Markup (80%)	<u>62,560</u>

Selling price

\$140,760

290) a.

The first step is to calculate the estimated total overhead costs in the two departments.

Molding

Estimated fixed manufacturing overhead	\$ 29,000
Estimated variable manufacturing overhead (\$1.20 per MH × 5,000 MHs)	6,000
Estimated total manufacturing overhead cost	<u>\$ 35,000</u>

Assembly

Estimated fixed manufacturing overhead	\$ 13,500
Estimated variable manufacturing overhead (\$2.30 per MH × 5,000 MHs)	11,500
Estimated total manufacturing overhead cost	<u>\$ 25,000</u>

The second step is to combine the estimated manufacturing overhead costs in the two departments (\$35,000 + \$25,000 = \$60,000) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$60,000
Estimated total machine hours	10,000 MHs
Predetermined overhead rate	\$ 6.00 per MH

b.

The overhead applied to Job E is calculated as follows:

$$\begin{aligned}\text{Overhead applied to a particular job} &= \text{Predetermined overhead rate} \times \\ &\text{Machine-hours incurred by the job} \\ &= \$6.00 \text{ per MH} \times (3,400 \text{ MHs} + 2,000 \text{ MHs}) \\ &= \$6.00 \text{ per MH} \times (5,400 \text{ MHs}) \\ &= \$32,400\end{aligned}$$

c.

Job E's manufacturing cost:

Direct materials	\$ 14,300
Direct labor cost	22,800
Manufacturing overhead applied	32,400
Total manufacturing cost	<u>\$ 69,500</u>

d.

The selling price for Job E:

Total manufacturing cost	\$ 69,500
Markup (60%)	41,700
Selling price	<u>\$111,200</u>

e.

Molding Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$29,000
Estimated variable manufacturing overhead (\$1.20 per MH × 5,000 MHs)	6,000
Estimated total manufacturing overhead cost (a)	<u>\$35,000</u>
Estimated total machine-hours (b)	5,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 7.00 per MH

f.

Assembly Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$13,500
Estimated variable manufacturing overhead (\$2.30 per MH × 5,000 MHs)	11,500
Estimated total manufacturing overhead cost (a)	<u>\$25,000</u>
Estimated total machine-hours (b)	5,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 5.00 per MH

g.

Manufacturing overhead applied to Job E:

Molding (\$7.00 per MH × 3,400 MHs)	\$ 23,800
Assembly (\$5.00 per MH × 2,000 MHs)	10,000
Total manufacturing overhead applied	<u>\$ 33,800</u>

h.

The selling price for Job E would be calculated as follows:

Direct materials	\$ 14,300
Direct labor cost	22,800
Manufacturing overhead applied	33,800
Total manufacturing cost	<u>\$ 70,900</u>
Markup (60%)	<u>42,540</u>

Selling price

\$113,440

291) Machining Department:

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$= \$67,500 + (\$1.50 \text{ per machine-hour} \times 15,000 \text{ machine-hours})$$

$$= \$67,500 + \$22,500 = \$90,000$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $\$90,000 \div 15,000$ machine-hours = \$6.00 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$6.00 per machine-hour × 80 machine-hours = \$480

Customizing Department:

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$= \$76,000 + (\$3.00 \text{ per direct labor-hour} \times 5,000 \text{ direct labor-hours})$$

$$= \$76,000 + \$15,000 = \$91,000$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $\$91,000 \div 5,000$ direct labor-hours = \$18.20 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$18.20 per direct labor-hour × 70 direct labor-hours = \$1,274

Overhead applied to Job K369

Machining Department

\$ 480

Customizing Department

1,274

Total

\$ 1,754

292) Machining Department:

Machining Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$\begin{aligned} &= \$98,800 + (\$2.10 \text{ per machine-hour} \times 19,000 \text{ machine-hours}) \\ &= \$98,800 + \$39,900 = \$138,700 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $\$138,700 \div 19,000$ machine-hours = \$7.30 per machine-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$7.30 per machine-hour × 90 machine-hours = \$657

Customizing Department:

Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$\begin{aligned} &= \$84,600 + (\$3.60 \text{ per direct labor-hour} \times 9,000 \text{ direct labor-hours}) \\ &= \$84,600 + \$32,400 = \$117,000 \end{aligned}$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $\$117,000 \div 9,000$ direct labor-hours = \$13.00 per direct labor-hour

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$13.00 per direct labor-hour × 50 direct labor-hours = \$650

Overhead applied to Job K369

Machining Department	\$ 657
Customizing Department	650
Total	<u><u>\$1,307</u></u>

293) a.

The first step is to calculate the estimated total overhead costs in the two departments.

Machining

Estimated fixed manufacturing overhead	\$ 8,400
Estimated variable manufacturing overhead (\$3.00 per MH × 7,000 MHs)	21,000
Estimated total manufacturing overhead cost	<u>\$ 29,400</u>

Finishing

Estimated fixed manufacturing overhead	\$ 11,700
Estimated variable manufacturing overhead (\$5.00 per MH × 3,000 MHs)	15,000
Estimated total manufacturing overhead cost	<u>\$ 26,700</u>

The second step is to combine the estimated manufacturing overhead costs in the two departments ($\$29,400 + \$26,700 = \$56,100$) to calculate the plantwide predetermined overhead rate as follows:

Estimated total manufacturing overhead cost	\$56,100
Estimated total machine hours	10,000 MHs
Predetermined overhead rate	\$ 5.61 per MH

b.

The overhead applied to Job B is calculated as follows:

$$\begin{aligned}\text{Overhead applied to a particular job} &= \text{Predetermined overhead rate} \times \\ &\text{Machine-hours incurred by the job} \\ &= \$5.61 \text{ per MH} \times (5,000 \text{ MHs} + 500 \text{ MHs}) \\ &= \$5.61 \text{ per MH} \times (5,500 \text{ MHs}) \\ &= \$30,855\end{aligned}$$

c.

The overhead applied to Job K is calculated as follows:

$$\begin{aligned}\text{Overhead applied to a particular job} &= \text{Predetermined overhead rate} \times \\ &\text{Machine-hours incurred by the job} \\ &= \$5.61 \text{ per MH} \times (2,000 \text{ MHs} + 2,500 \text{ MHs}) \\ &= \$5.61 \text{ per MH} \times (4,500 \text{ MHs}) \\ &= \$25,245\end{aligned}$$

d.

Machining Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$8,400
Estimated variable manufacturing overhead (\$3.00 per MH × 7,000 MHs)	21,000
Estimated total manufacturing overhead cost (a)	<hr/> \$29,400
Estimated total machine-hours (b)	7,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 4.20 per MH

e.

Finishing Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$11,700
Estimated variable manufacturing overhead (\$5.00 per MH × 3,000 MHs)	15,000
Estimated total manufacturing overhead cost (a)	<hr/> \$26,700
Estimated total machine-hours (b)	3,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 8.90 per MH

f.

Manufacturing overhead applied to Job B:

Machining (\$4.20 per MH × 5,000 MHs)	\$ 21,000
Finishing (\$8.90 per MH × 500 MHs)	4,450
Total manufacturing overhead applied	<u>\$ 25,450</u>

g.

Manufacturing overhead applied to Job K:

Machining (\$4.20 per MH × 2,000 MHs)	\$ 8,400
Finishing (\$8.90 per MH × 2,500 MHs)	22,250
Total manufacturing overhead applied	<u>\$30,650</u>

294) a.

The first step is to calculate the estimated total overhead costs in the two departments.

Machining

Estimated fixed manufacturing overhead	\$ 20,000
Estimated variable manufacturing overhead (\$1.40 per MH × 4,000 MHs)	5,600
Estimated total manufacturing overhead cost	<u>\$ 25,600</u>

Finishing

Estimated fixed manufacturing overhead	\$ 2,100
Estimated variable manufacturing overhead (\$2.80 per MH × 1,000 MHs)	2,800
Estimated total manufacturing overhead cost	<u>\$ 4,900</u>

The second step is to combine the estimated manufacturing overhead costs in the two departments ($\$25,600 + \$4,900 = \$30,500$) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$30,500
Estimated total machine hours	5,000 MHs
Predetermined overhead rate	\$ 6.10 per MH

b.

The overhead applied to Job B is calculated as follows:

$$\begin{aligned} \text{Overhead applied to a particular job} &= \text{Predetermined overhead rate} \times \\ &\text{Machine-hours incurred by the job} \\ &= \$6.10 \text{ per MH} \times (2,700 \text{ MHs} + 400 \text{ MHs}) \\ &= \$6.10 \text{ per MH} \times (3,100 \text{ MHs}) \\ &= \$18,910 \end{aligned}$$

c.

The overhead applied to Job K is calculated as follows:

$$\begin{aligned} \text{Overhead applied to a particular job} &= \text{Predetermined overhead rate} \times \\ &\text{Machine-hours incurred by the job} \\ &= \$6.10 \text{ per MH} \times (1,300 \text{ MHs} + 600 \text{ MHs}) \\ &= \$6.10 \text{ per MH} \times (1,900 \text{ MHs}) \\ &= \$11,590 \end{aligned}$$

d.

Machining Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$20,000
Estimated variable manufacturing overhead (\$1.40 per MH × 4,000 MHs)	5,600
Estimated total manufacturing overhead cost (a)	<hr/> \$25,600
Estimated total machine-hours (b)	4,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 6.40 per MH

e.

Finishing Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$2,100
Estimated variable manufacturing overhead (\$2.80 per MH × 1,000 MHs)	2,800
Estimated total manufacturing overhead cost (a)	<hr/> \$4,900
Estimated total machine-hours (b)	1,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 4.90 per MH

f.

Manufacturing overhead applied to Job B:

Machining (\$6.40 per MH × 2,700 MHs)	\$ 17,280
Finishing (\$4.90 per MH × 400 MHs)	1,960
Total manufacturing overhead applied	<u>\$ 19,240</u>

g.

Manufacturing overhead applied to Job K:

Machining (\$6.40 per MH × 1,300 MHs)	\$ 8,320
Finishing (\$4.90 per MH × 600 MHs)	2,940
Total manufacturing overhead applied	<u>\$11,260</u>

295) a. Assembly Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$= \$76,300 + (\$3.10 \text{ per direct labor-hour} \times 7,000 \text{ direct labor-hours})$$

$$= \$76,300 + \$21,700 = \$98,000$$

b.

Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$= \$100,800 + (\$1.70 \text{ per machine-hour} \times 16,000 \text{ machine-hours})$$

$$= \$100,800 + \$27,200 = \$128,000$$

Forming Department: Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the =
 $\$128,000 \div 16,000 \text{ machine-hours} = \$8.00 \text{ per machine-hour}$

c.

Forming Department: Overhead applied to a particular job =
 Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$8.00 \text{ per machine-hour} \times 50 \text{ machine-hours} = \400

Assembly Department: Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $\$98,000 \div 7,000 \text{ direct labor-hours} = \$14.00 \text{ per direct labor-hour}$

Assembly Department: Overhead applied to a particular job =
 Predetermined overhead rate × Amount of the allocation base incurred by the job = $\$14.00 \text{ per direct labor-hour} \times 40 \text{ direct labor-hours} = \560

Overhead applied to Job X560

Forming Department	\$ 400
Assembly Department	560
Total	<u>\$ 960</u>

296) a.

The first step is to calculate the estimated total overhead costs in the two departments.

Molding

Estimated fixed manufacturing overhead	\$ 5,100
Estimated variable manufacturing overhead (\$1.50 per MH × 1,000 MHs)	1,500
Estimated total manufacturing overhead cost	<u>\$ 6,600</u>

Customizing

Estimated fixed manufacturing overhead	\$ 23,400
Estimated variable manufacturing overhead (\$2.50 per MH × 9,000 MHs)	22,500
Estimated total manufacturing overhead cost	<u>\$ 45,900</u>

The second step is to combine the estimated manufacturing overhead costs in the two departments (\$6,600 + \$45,900 = \$52,500) to calculate the plantwide predetermined overhead rate as follow:

Estimated total manufacturing overhead cost	\$52,500
Estimated total machine hours	10,000 MHs
Predetermined overhead rate	\$ 5.25 per MH

The overhead applied to Job D is calculated as follows:

$$\begin{aligned} \text{Overhead applied to a particular job} &= \text{Predetermined overhead rate} \times \\ &\text{Machine-hours incurred by the job} \\ &= \$5.25 \text{ per MH} \times (700 \text{ MHs} + 3,600 \text{ MHs}) \\ &= \$5.25 \text{ per MH} \times (4,300 \text{ MHs}) \\ &= \$22,575 \end{aligned}$$

b.

The overhead applied to Job G is calculated as follows:

$$\begin{aligned} \text{Overhead applied to a particular job} &= \text{Predetermined overhead rate} \times \\ &\text{Machine-hours incurred by the job} \\ &= \$5.25 \text{ per MH} \times (300 \text{ MHs} + 5,400 \text{ MHs}) \\ &= \$5.25 \text{ per MH} \times (5,700 \text{ MHs}) \\ &= \$29,925 \end{aligned}$$

c.

Molding Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$5,100
Estimated variable manufacturing overhead (\$1.50 per MH × 1,000 MHs)	1,500
Estimated total manufacturing overhead cost (a)	\$6,600
Estimated total machine-hours (b)	1,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 6.60 per MH

Customizing Department predetermined overhead rate:

Estimated fixed manufacturing overhead	\$23,400
Estimated variable manufacturing overhead (\$2.50 per MH × 9,000 MHs)	22,500
Estimated total manufacturing overhead cost (a)	\$45,900
Estimated total machine-hours (b)	9,000 MHs
Departmental predetermined overhead rate (a) ÷ (b)	\$ 5.10 per MH

Manufacturing overhead applied to Job D:

Molding (\$6.60 per MH × 700 MHs)	\$ 4,620
Customizing (\$5.10 per MH × 3,600 MHs)	18,360
Total manufacturing overhead applied	\$22,980

d. Manufacturing overhead applied to Job G:

Molding (\$6.60 per MH × 300 MHs)	\$ 1,980
Customizing (\$5.10 per MH × 5,400 MHs)	27,540
Total manufacturing overhead applied	<u>\$29,520</u>

297) a. Casting Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department)

$$= \$124,100 + (\$2.30 \text{ per machine-hour} \times 17,000 \text{ machine-hours})$$
$$= \$124,100 + \$39,100 = \$163,200$$

b. Casting Department:

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $\$163,200 \div 17,000$ machine-hours = \$9.60 per machine-hour

c. Casting Department:

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$9.60 per machine-hour × 80 machine-hours = \$768

298) a. Finishing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$= \$57,600 + (\$4.00 \text{ per direct labor-hour} \times 6,000 \text{ direct labor-hours})$$
$$= \$57,600 + \$24,000 = \$81,600$$

b. Finishing Department:

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = $\$81,600 \div 6,000$ direct labor-hours = \$13.60 per direct labor-hour

c. Finishing Department:

Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$13.60 per direct labor-hour × 60 direct labor-hours = \$816

299) a. Forming Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per machine-hour × Total machine-hours in the department) = \$119,700 + (\$2.00 per machine-hour × 19,000 machine-hours)

$$= \$119,700 + \$38,000 = \$157,700$$

b. Customizing Department overhead cost = Fixed manufacturing overhead cost + (Variable overhead cost per direct labor-hour × Total direct labor-hours in the department)

$$= \$67,200 + (\$4.20 \text{ per direct labor-hour} \times 8,000 \text{ direct labor-hours}) \\ = \$67,200 + \$33,600 = \$100,800$$

Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = \$100,800 ÷ 8,000 direct labor-hours = \$12.60 per direct labor-hour

c. Forming Department: Predetermined overhead rate = Estimated total manufacturing overhead cost ÷ Estimated total amount of the = \$157,700 ÷ 19,000 machine-hours = \$8.30 per machine-hour

Forming Department: Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$8.30 per machine-hour × 50 machine-hours = \$415

Customizing Department: Overhead applied to a particular job = Predetermined overhead rate × Amount of the allocation base incurred by the job = \$12.60 per direct labor-hour × 50 direct labor-hours = \$630

Overhead applied to Job K973

Forming Department	\$ 415
Customizing Department	630
Total	<u>\$1,045</u>

300)

Predetermined overhead rate (a)	\$ 14.30 per machine-hour
Actual activity level (b)	36,700 machine-hours
Manufacturing overhead applied (a) × (b)	<u>\$524,810</u>

301)

Predetermined overhead rate (a)	\$ 23.40 per direct labor-hour
Actual activity level (b)	27,100 direct labor-hours
Manufacturing overhead applied (a)	\$634,140
× (b)	

302) Estimated total manufacturing overhead = \$1,533,180 + (\$8.41 per labor-hour × 66,000 labor-hours) = \$2,088,240

Predetermined overhead rate = \$2,088,240 ÷ 66,000 labor-hours = \$31.64 per labor-hour

303) Estimated total manufacturing overhead = \$705,220 + (\$4.43 per labor-hour × 37,000 labor-hours) = \$869,130

Predetermined overhead rate = \$869,130 ÷ 37,000 labor-hours = \$23.49 per labor-hour

304) Estimated total manufacturing overhead = \$985,920 + (\$9.99 per labor-hour × 78,000 labor-hours) = \$1,765,140

Predetermined overhead rate = \$1,765,140 ÷ 78,000 labor-hours = \$22.63 per labor-hour

305) Estimated total manufacturing overhead = \$1,077,000 + (\$8.82 per machine-hour × 50,000 machine-hours) = \$1,518,000

Predetermined overhead rate = \$1,518,000 ÷ 50,000 machine-hours = \$30.36 per machine-hour

306) Cost Summary

Direct materials	\$ 48,870
Direct labor (\$13 per DLH × 405 DLHs)	5,265
Manufacturing overhead (\$11 per MH × 486 MHs)	5,346
Total product cost	<u>\$ 59,481</u>
Unit product cost	\$ 22.03

307) Cost Summary

Direct materials	\$ 59,400
Direct labor (\$15 per DLH × 1,224 DLHs)	18,360
Manufacturing overhead (\$35 per DLH × 1,224 DLHs)	42,840
Total product cost	<u>\$ 120,600</u>
Unit product cost	\$ 33.50

