

Chapter 4 - Activity-Based Costing

1. Product costing consists of only direct materials and direct labor.

- a. True
- b. False

ANSWER: False

POINTS: 1

DIFFICULTY: Bloom's: Remembering
Easy

LEARNING OBJECTIVES: MANG.WARD.18.04-01 - 04-01

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

2. The selection of the factory overhead allocation method is important because the method selected determines the accuracy of the product cost.

- a. True
- b. False

ANSWER: True

POINTS: 1

DIFFICULTY: Moderate
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.04-01 - 04-01

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

3. Managers depend on accurate factory overhead allocation to make decisions regarding product mix and product price.

- a. True
- b. False

ANSWER: True

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.04-01 - 04-01

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

4. Managers depend on product costing to make decisions regarding continuing operations and product mix.

- a. True
- b. False

ANSWER: True

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.04-01 - 04-01

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs

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5. Which of the following is **not** a factory overhead allocation method?

- a. single plantwide rate
- b. multiple departmental rates
- c. factory costing
- d. activity-based costing

ANSWER: c

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.04-01 - 04-01

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs
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BUSPROG: Analytic

6. Which of the following does **not** rely on managerial decisions involving accurate product costing?

- a. product constraints
- b. emphasis of a product line
- c. product mix
- d. product price

ANSWER: a

POINTS: 1

DIFFICULTY: Moderate
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.04-01 - 04-01

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

7. A plantwide factory overhead rate is computed by dividing total budgeted factory overhead costs by the plantwide allocation base.

- a. True
- b. False

ANSWER: True

POINTS: 1

DIFFICULTY: Bloom's: Remembering
Easy

LEARNING OBJECTIVES: MANG.WARD.18.04-02 - 04-02

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

8. Zorn Co. budgeted \$600,000 of factory overhead cost for the coming year. Its plantwide allocation base, machine hours, is budgeted at 100,000 hours. Budgeted units to be produced are 200,000 units. Zorn's plantwide factory overhead rate is \$6.00 per unit.

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- a. True
- b. False

ANSWER:

False

RATIONALE:

Single Plantwide Factory Overhead Rate = Total Budgeted Factory Overhead ÷ Total Budgeted Plantwide Allocation Base

Single Plantwide Factory Overhead Rate = \$600,000 ÷ 100,000 machine hours = \$6 per machine hour

Plantwide factory overhead rate = \$6 per machine hour × (100,000 / 200,000) direct machine hours = \$3 per unit

POINTS:

1

DIFFICULTY:

Bloom's: Applying
Moderate

LEARNING OBJECTIVES: MANG.WARD.18.04-02 - 04-02

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs

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BUSPROG: Analytic

9. Bob's Biscuit Corporation budgeted \$1,200,000 of factory overhead cost for the coming year. Its plantwide allocation base, machine hours, is budgeted at 100,000 hours. Budgeted units to be produced are 200,000 units. Bob's plantwide factory overhead rate is \$12.00 per machine hour.

- a. True
- b. False

ANSWER:

True

RATIONALE:

Single Plantwide Factory Overhead Rate = Total Budgeted Factory Overhead ÷ Total Budgeted Plantwide Allocation Base

Single Plantwide Factory Overhead Rate = \$1,200,000 ÷ 100,000 machine hours = \$12 per machine hour

POINTS:

1

DIFFICULTY:

Bloom's: Applying
Moderate

LEARNING OBJECTIVES: MANG.WARD.18.04-02 - 04-02

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs

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BUSPROG: Analytic

10. When a plantwide factory overhead rate is used, the total overhead costs allocated to all products are the same.

- a. True
- b. False

ANSWER:

False

POINTS:

1

DIFFICULTY:

Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.04-02 - 04-02

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs

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BUSPROG: Analytic

11. When a plantwide factory overhead rate is used, overhead costs are applied to all products by a single rate.

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- a. True
- b. False

ANSWER: True

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.04-02 - 04-02

ACCREDITING STANDARDS: ACCT.ACBS.P.APC.27 - Managerial Accounting Features/Costs
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BUSPROG: Analytic

12. Use of a plantwide factory overhead rate assumes that the activities causing overhead costs are the same across all departments and products.

- a. True
- b. False

ANSWER: True

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.04-02 - 04-02

ACCREDITING STANDARDS: ACCT.ACBS.P.APC.27 - Managerial Accounting Features/Costs
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BUSPROG: Analytic

13. Use of a plantwide factory overhead rate assumes that the activities causing overhead costs are different across different departments and products.

- a. True
- b. False

ANSWER: False

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.04-02 - 04-02

ACCREDITING STANDARDS: ACCT.ACBS.P.APC.27 - Managerial Accounting Features/Costs
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BUSPROG: Analytic

14. If the activities causing overhead costs are different across different departments and products, use of a plantwide factory overhead rate will cause distorted product costs.

- a. True
- b. False

ANSWER: True

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

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ACCREDITING STANDARDS: ACCT.ACBS.P.APC.27 - Managerial Accounting Features/Costs
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BUSPROG: Analytic

15. If the budgeted factory overhead cost is \$460,000, the budgeted direct labor hours is 80,000, and the actual direct labor hours is 6,700 for the month, the amount of factory overhead to be allocated is \$38,525 (if the allocation is based on direct labor hours).

- a. True
- b. False

ANSWER: True

RATIONALE: Factory overhead to be allocated = $\$5.75^*$ per direct labor hour \times 6,700 direct labor hours = \$38,525
Single Plantwide Factory Overhead Rate = Total Budgeted Factory Overhead \div Total Budgeted Plantwide Allocation Base
Single Plantwide Factory Overhead Rate = $\$460,000 \div 80,000$ direct labor hours = $\$5.75^*$ per direct labor hour

POINTS: 1

DIFFICULTY: Bloom's: Applying
Moderate

LEARNING OBJECTIVES: MANG.WARD.18.04-02 - 04-02

ACCREDITING STANDARDS: ACCT.ACBS.P.APC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

16. If the budgeted factory overhead cost is \$460,000, the budgeted direct labor hours is 80,000, and the actual direct labor hours is 6,700 for the month, the factory overhead rate for the month is \$68.65 (if the allocation is based on direct labor hours).

- a. True
- b. False

ANSWER: False

RATIONALE: Single Plantwide Factory Overhead Rate = Total Budgeted Factory Overhead \div Total Budgeted Plantwide Allocation Base
Single Plantwide Factory Overhead Rate = $\$460,000 \div 80,000$ direct labor hours = $\$5.75$ per direct labor hour

POINTS: 1

DIFFICULTY: Bloom's: Applying
Moderate

LEARNING OBJECTIVES: MANG.WARD.18.04-02 - 04-02

ACCREDITING STANDARDS: ACCT.ACBS.P.APC.27 - Managerial Accounting Features/Costs
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BUSPROG: Analytic

17. A single plantwide overhead rate method is very expensive to apply.

- a. True
- b. False

ANSWER: False

POINTS: 1

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DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.04-02 - 04-02

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs
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BUSPROG: Analytic

18. A plantwide factory overhead rate assumes that all overhead is directly related to one activity representing the entire plant.

- a. True
- b. False

ANSWER: True

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.04-02 - 04-02

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs
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BUSPROG: Analytic

19. Pinnacle Corp. budgeted \$700,000 of overhead cost for the current year. Actual overhead costs for the year were \$650,000. Pinnacle's plantwide allocation base, machine hours, was budgeted at 100,000 hours. Actual machine hours were 80,000. A total of 100,000 units was budgeted to be produced and 98,000 units were actually produced. Pinnacle's plantwide factory overhead rate for the current year is:

- a. \$8.13 per machine hour
- b. \$7.00 per machine hour
- c. \$6.50 per machine hour
- d. \$8.75 per machine hour

ANSWER: b

RATIONALE: Single Plantwide Factory Overhead Rate = Total Budgeted Factory Overhead ÷ Total Budgeted Plantwide Allocation Base
Single Plantwide Factory Overhead Rate = \$700,000 ÷ 100,000 machine hours = \$7 per machine hour

POINTS: 1

DIFFICULTY: Bloom's: Applying
Moderate

LEARNING OBJECTIVES: MANG.WARD.18.04-02 - 04-02

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs
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BUSPROG: Analytic

20. Everest Co. uses a plantwide factory overhead rate based on direct labor hours. Overhead costs would be overcharged to which of the following departments?

- a. A labor-intensive department
- b. A capital-intensive department
- c. A materials-intensive department
- d. All of the above

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ANSWER: a

POINTS: 1

DIFFICULTY: Moderate
Bloom's: Remembering

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BUSPROG: Analytic

Adirondak Marketing Inc. manufactures two products, A and B. Presently, the company uses a single plantwide factory overhead rate for allocating overhead to products. However, management is considering moving to a multiple department rate system for allocating overhead.

	<u>Overhead</u>	Total	<u>DLH per Product</u>	
		Direct	<u>A</u>	<u>B</u>
		<u>Labor Hours</u>		
Painting Dept.	\$250,000	10,000	16	4
Finishing Dept.	<u>75,000</u>	<u>12,000</u>	<u>4</u>	<u>16</u>
Totals	<u>\$325,000</u>	<u>22,000</u>	<u>20</u>	<u>20</u>

21. Calculate the plantwide factory overhead rate for Adirondack Marketing Inc.

- a. \$25.00 per dlh
- b. \$0.07 per dlh
- c. \$14.77 per dlh
- d. \$ 6.25 per dlh

ANSWER: c

RATIONALE: Single Plantwide Factory Overhead Rate = Total Budgeted Factory Overhead ÷ Total Budgeted Plantwide Allocation Base
Single Plantwide Factory Overhead Rate = \$325,000 ÷ 22,000 direct labor hours = \$14.77 per direct labor hour

POINTS: 1

DIFFICULTY: Bloom's: Applying
Moderate

LEARNING OBJECTIVES: MANG.WARD.18.04-02 - 04-02

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs
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BUSPROG: Analytic

22. Calculate the overhead rate per unit for Product A in the painting department of Adirondack Marketing Inc.

- a. \$236.32 per unit
- b. \$325.00 per unit
- c. \$147.70 per unit
- d. \$161.00 per unit

ANSWER: a

RATIONALE: Overhead rate per unit for Product A = Single factory overhead rate × Direct labor hours per unit of Product A
Overhead rate per unit for Product A = \$14.77* per direct labor hour × 16 direct labor

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hours = \$236.32

The overhead rate per unit of Product A is \$236.32 per unit.

Single Plantwide Factory Overhead Rate = Total Budgeted Factory Overhead ÷ Total Budgeted Plantwide Allocation Base

Single Plantwide Factory Overhead Rate = \$325,000 ÷ 22,000 direct labor hours = \$14.77* per direct labor hour

POINTS:

1

DIFFICULTY:

Bloom's: Applying
Moderate

LEARNING OBJECTIVES:

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ACCREDITING STANDARDS: ACCT.ACBSAPC.27 - Managerial Accounting Features/Costs

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BUSPROG: Analytic

Blue Ridge Marketing Inc. manufactures two products, A and B. Presently, the company uses a single plantwide factory overhead rate for allocating overhead to products. However, management is considering moving to a multiple department rate system for allocating overhead. The following table presents information about estimated overhead and direct labor hours.

	Overhead	Direct Labor Hours (dlh)	Product	
			A	B
Painting Dept.	\$248,000	10,000 dlh	16 dlh	4 dlh
Finishing Dept.	<u>72,000</u>	<u>10,000</u>	<u>4</u>	<u>16</u>
Totals	<u>\$320,000</u>	<u>20,000 dlh</u>	<u>20 dlh</u>	<u>20 dlh</u>

23. Using a single plantwide rate, determine the overhead rate per unit for Blue Ridge Marketing Inc.'s Product B.

- a. \$496.00
- b. \$144.00
- c. \$640.00
- d. \$320.00

ANSWER:

d

RATIONALE:

Overhead rate per unit for Product B = Single factory overhead rate × Direct labor hours per unit of Product B

Overhead rate per unit for Product B = \$16* × 20 direct labor hours = \$320

The overhead rate per unit of Product B is \$320.

Single Plantwide Factory Overhead Rate = Total Budgeted Factory Overhead ÷ Total Budgeted Plantwide Allocation Base

Single Plantwide Factory Overhead Rate = \$320,000 ÷ 20,000 direct labor hours = \$16* per direct labor hour

POINTS:

1

DIFFICULTY:

Bloom's: Applying
Moderate

LEARNING OBJECTIVES:

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ACCREDITING STANDARDS: ACCT.ACBSAPC.27 - Managerial Accounting Features/Costs

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BUSPROG: Analytic

The Ramapo Company produces two products, Blinks and Dinks. They are manufactured in two departments, Fabrication

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and Assembly. Data for the products and departments are listed below.

<u>Product</u>	<u>Number of units</u>	<u>Labor hrs per unit</u>	<u>Machine hours per unit</u>
Blinks	1,000	4	5
Dinks	2,000	2	8

All of the machine hours take place in the Fabrication department, which has an estimated overhead of \$84,000. All of the labor hours take place in the Assembly department, which has an estimated total overhead of \$72,000.

24. The Ramapo Company uses a single overhead rate to apply all overhead costs based on labor hours. What is the overhead cost per unit for Blinks?

- a. \$78.00
- b. \$19.50
- c. \$37.45
- d. \$56.00

ANSWER:

a

RATIONALE:

Overhead cost per unit for Blinks = Single plantwide factory overhead rate × Direct labor hours per unit of Blinks

Overhead rate per unit for Blinks = \$19.50* per direct labor hour × 4 direct labor hours = \$78

Single Plantwide Factory Overhead Rate = Total Budgeted Factory Overhead ÷ Total Budgeted Plantwide Allocation Base

Single Plantwide Factory Overhead Rate = (\$84,000 + \$72,000) ÷ 8,000** direct labor hours = \$19.50* per direct labor hour

<u>Product</u>	<u>Number of Units</u>	<u>Labor Hours Per Unit</u>	<u>Total Labor Hours</u>
Blinks	1,000 units	4 hours	4,000 hours
Dinks	2,000 units	2 hours	4,000 hours
Total	3,000 units		8,000 hours**

POINTS:

1

DIFFICULTY:

Bloom's: Applying
Moderate

LEARNING OBJECTIVES:

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25. The Ramapo Company uses a single overhead rate to apply all overhead costs based on labor hours. What is the overhead cost per unit for Dinks?

- a. \$77.00
- b. \$39.00
- c. \$19.50
- d. \$59.92

ANSWER:

b

RATIONALE:

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Overhead cost per unit for Dinks = Single plantwide factory overhead rate \times Direct labor hours per unit of Dinks

Overhead rate per unit for Dinks = \$19.50* per direct labor hour \times 2 hours = \$39

Single Plantwide Factory Overhead Rate = Total Budgeted Factory Overhead \div Total Budgeted Plantwide Allocation Base

Single Plantwide Factory Overhead Rate = (\$84,000 + \$72,000) \div 8,000** direct labor hours = \$19.50* per direct labor hour

<u>Product</u>	<u>Number of Units</u>	<u>Labor Hours Per Unit</u>	<u>Total Labor Hours</u>
Blinks	1,000 units	4 hours	4,000 hours
Dinks	<u>2,000 units</u>	2 hours	<u>4,000 hours</u>
Total	<u>3,000 units</u>		<u>8,000 hours**</u>

POINTS:

1

DIFFICULTY:

Bloom's: Applying
Moderate

LEARNING OBJECTIVES:

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ACCREDITING STANDARDS:

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26. The Ramapo Company uses a single overhead rate to apply all overhead costs. What would the single plantwide rate be if it was based on machine hours instead of labor hours?

- a. \$9.00 per machine hour
- b. \$19.50 per machine hour
- c. \$7.43 per machine hour
- d. \$4.00 per machine hour

ANSWER:

c

RATIONALE:

Single Plantwide Factory Overhead Rate = Total Budgeted Factory Overhead \div Total Budgeted Plantwide Allocation Base

Single plantwide factory overhead rate = (\$84,000 + \$72,000) \div 21,000* machine hours = \$7.43 per direct labor hour

<u>Product</u>	<u>Number of Units</u>	<u>Machine Hours Per Unit</u>	<u>Total Labor Hours</u>
Blinks	1,000 units	5 hours	5,000 hours
Dinks	<u>2,000 units</u>	8 hours	<u>16,000 hours</u>
Total	<u>3,000 units</u>		<u>21,000 hours*</u>

POINTS:

1

DIFFICULTY:

Bloom's: Applying
Moderate

LEARNING OBJECTIVES:

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ACCREDITING STANDARDS:

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27. Common allocation bases are

- a. direct labor dollars, direct labor hours, direct material dollars

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- b. direct labor dollars, direct labor hours, machine hours
- c. direct labor dollars, direct labor hours, machine dollars
- d. machine dollars, direct labor dollars, direct labor hours

ANSWER: b

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.04-02 - 04-02

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs
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BUSPROG: Analytic

28. The Roget Factory has determined that its budgeted factory overhead budget for the year is \$15,500,000. They plan to produce 2,000,000 units. Budgeted direct labor hours are 1,050,000 and budgeted machine hours are 750,000. Using the single plantwide factory overhead rate based on direct labor hours, calculate the factory overhead rate for the year.

- a. \$14.76
- b. \$20.67
- c. \$7.75
- d. \$77.50

ANSWER: a

RATIONALE: Single Plantwide Factory Overhead Rate = Total Budgeted Factory Overhead ÷ Total Budgeted Plantwide Allocation Base
Single Plantwide Factory Overhead Rate = \$15,500,000 ÷ 1,050,000 direct labor hours = \$14.76 per direct labor hour

POINTS: 1

DIFFICULTY: Bloom's: Applying
Easy

LEARNING OBJECTIVES: MANG.WARD.18.04-02 - 04-02

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs
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BUSPROG: Analytic

29. The Botosan Factory has determined that its budgeted factory overhead budget for the year is \$13,500,000 and budgeted direct labor hours are 10,000,000. If the actual direct labor hours for the period are 350,000, how much overhead would be allocated to the period?

- a. \$675,000
- b. \$470,630
- c. \$472,500
- d. \$236,250

ANSWER: c

RATIONALE: Single Plantwide Factory Overhead Rate = Total Budgeted Factory Overhead ÷ Total Budgeted Plantwide Allocation Base
Single plantwide factory overhead rate = \$13,500,000 ÷ 10,000,000 budgeted direct labor hours = \$1.35 per direct labor hour
Overhead allocated to the period = Single plantwide factory overhead rate × Actual direct labor hours for the period = \$1.35 × 350,000 direct labor hours = \$472,500
Overhead allocated to the period is \$472,500.

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POINTS:	1
DIFFICULTY:	Bloom's: Applying Easy
LEARNING OBJECTIVES:	MANG.WARD.18.04-02 - 04-02
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Blackwelder Factory produces two similar products - small lamps and desk lamps. The total plant overhead budget is \$640,000 with 400,000 estimated direct labor hours. It is further estimated that small lamp production will require 275,000 direct labor hours and desk lamp production will need 125,000 direct labor hours.

30. Using the single plantwide factory overhead rate with an allocation base of direct labor hours, how much factory overhead will Blackwelder Factory allocate to small lamp production if actual direct hours for the period is 285,000?
- a. \$275,000
 - b. \$285,000
 - c. \$440,000
 - d. \$456,000

ANSWER: d

RATIONALE: Single Plantwide Factory Overhead Rate = Total Budgeted Plant Overhead ÷ Total Budgeted Plantwide Allocation Base
Single Plantwide Factory Overhead Rate = \$640,000 ÷ 400,000 direct labor hours = \$1.60 per direct labor hour
Overhead allocated to small lamp production = Single plantwide factory overhead rate × Actual direct labor hours for the period for small lamp production = \$1.60 × 285,000 direct labor hours = \$456,000
The factory overhead allocated to small lamp production is \$456,000.

POINTS:	1
DIFFICULTY:	Bloom's: Applying Easy
LEARNING OBJECTIVES:	MANG.WARD.18.04-02 - 04-02
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31. Using the single plantwide factory overhead rate with an allocation base of direct labor hours, how much factory overhead will Blackwelder Factory allocate to desk lamp production if actual direct hours for the period is 118,000?
- a. \$118,000
 - b. \$200,000
 - c. \$188,800
 - d. \$125,000

ANSWER: c

RATIONALE: Single Plantwide Factory Overhead Rate = Total Budgeted Plant Overhead ÷ Total Budgeted Plantwide Allocation Base
Single Plantwide Factory Overhead Rate = \$640,000 ÷ 400,000 direct labor hours = \$1.60 per direct labor hour
Overhead allocated to the period = Single plantwide factory overhead rate × Actual direct labor hours for the period for desk lamp production = \$1.60 × 118,000 direct labor hours

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= \$188,800

The factory overhead allocated to desk lamp production is \$188,800.

POINTS:

1

DIFFICULTY:

Bloom's: Applying
Easy

LEARNING OBJECTIVES: MANG.WARD.18.04-02 - 04-02

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs
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BUSPROG: Analytic

Challenger Factory produces two similar products - regular widgets and deluxe widgets. The total plant overhead budget is \$675,000 with 300,000 estimated direct labor hours. It is further estimated that deluxe widget production will need 3 direct labor hours for each unit and regular widget production will require 2 direct labor hours for each unit.

32. Using the single plantwide factory overhead rate with an allocation base of direct labor hours, how much factory overhead will Challenger Factory allocate to regular widget production if budgeted production for the period is 75,000 units and actual production for the period is 72,000 units?

- a. \$168,750
- b. \$324,000
- c. \$162,000
- d. \$337,500

ANSWER:

b

RATIONALE:

Overhead allocated to regular widget = Single plantwide factory overhead rate \times Actual direct labor hours for the period for regular widget production = $\$2.25^* \times 144,000^{**}$ direct labor hours = \$324,000

Single Plantwide Factory Overhead Rate = Total Budgeted Plant Overhead \div Total Budgeted Plantwide Allocation Base

Single plantwide factory overhead rate = $\$675,000 \div 300,000$ direct labor hours = $\$2.25^*$ per direct labor hour

Actual direct labor hours for the period for regular widget production = Direct labor hours per unit \times Total number of units = 2 direct labor hours \times 72,000 units = $144,000^{**}$ direct labor hours

POINTS:

1

DIFFICULTY:

Bloom's: Applying
Moderate

LEARNING OBJECTIVES: MANG.WARD.18.04-02 - 04-02

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

33. Using the single plantwide factory overhead rate with an allocation base of direct labor hours, how much factory overhead will Challenger Factory allocate to deluxe widget production if budgeted production for the period is 50,000 units and actual production for the period is 58,000 units?

- a. \$391,500
- b. \$225,000
- c. \$261,000
- d. \$337,500

ANSWER:

a

Chapter 4 - Activity-Based Costing

RATIONALE: Overhead allocated to deluxe widget = Single plantwide factory overhead rate × Actual direct labor hours for the period for deluxe widget production
Overhead allocated to deluxe widget = \$2.25* × 174,000** direct labor hours = \$391,500
Single Plantwide Factory Overhead Rate = Total Budgeted Plant Overhead ÷ Total Budgeted Plantwide Allocation Base
Single plantwide factory overhead rate = \$675,000 ÷ 300,000 direct labor hours = \$2.25* per direct labor hour
Actual direct labor hours for the period for deluxe widget production = Direct labor hours per unit × Total number of units = 3 direct labor hours × 58,000 units = 174,000** direct labor hours

POINTS: 1

DIFFICULTY: Bloom's: Applying
Moderate

LEARNING OBJECTIVES: MANG.WARD.18.04-02 - 04-02

ACCREDITING STANDARDS: ACCT.ACBS.P.APC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

34. The total factory overhead for Big Light Company is budgeted for the year at \$807,500. Big Light manufactures two different products - night lights and desk lamps. Night lights is budgeted for 60,000 units. Each night light requires 1/2 hour of direct labor. Desk lamps is budgeted for 80,000 units. Each desk lamp requires 2 hours of direct labor. Determine (a) the total number of budgeted direct labor hours for year, (b) the single plantwide factory overhead rate using direct labor hours as the allocation base, and (c) the factory overhead allocated per unit for each product using the single plantwide factory overhead rate calculated in (b).

ANSWER:

- (a) $(60,000 \times \frac{1}{2}) + (80,000 \times 2) = 190,000$ direct labor hours
(b) $\$807,500 / 190,000 = \4.25 per direct labor hour
(c) Night Lights = $\$4.25 \times \frac{1}{2} = \2.13 per unit
Deck Lamps = $\$4.25 \times 2 = \8.50 per unit

POINTS: 1

DIFFICULTY: Moderate
Bloom's: Applying

LEARNING OBJECTIVES: MANG.WARD.18.04-02 - 04-02

ACCREDITING STANDARDS: ACCT.ACBS.P.APC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

35. The Sawtooth Leather Company manufactures leather handbags and moccasins. For simplicity, the company has decided to use a single plantwide factory overhead rate method to allocate factory overhead. Calculate the amount of factory overhead to be allocated to each unit using direct labor hours.

Handbags = 60,000 units, 2 hours of direct labor

Moccasins = 40,000 units, 3 hours of direct labor

Total budgeted factory overhead cost = \$360,000

ANSWER: Handbags: 60,000 units × 2 direct labor hours = 120,000 direct labor hours
Moccasins: 40,000 units × 3 direct labor hours = 120,000 direct labor hours
240,000 direct labor hours

Chapter 4 - Activity-Based Costing

$$\begin{aligned} \text{Single plantwide factory overhead rate} &= \frac{\$ 360,000}{240,000 \text{ direct labor hours}} \\ &= \$1.50 \text{ per direct labor hour} \end{aligned}$$

Handbags: $\$1.50 \times 2 = \3.00 per unit

Moccasins: $\$1.50 \times 3 = \4.50 per unit

POINTS:

1

DIFFICULTY:

Moderate

Bloom's: Applying

LEARNING OBJECTIVES:

MANG.WARD.18.04-02 - 04-02

ACCREDITING STANDARDS:

ACCT.AC BSP.APC.27 - Managerial Accounting Features/Costs

ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

36. Bugaboo Co. manufactures three types of cookies: Fluffs, Crinkles, and Snaps. The production process is relatively simple, and factory overhead costs are allocated to products using a single plantwide factory rate based on direct labor hours. Information for the month of May, Bugaboo's first month of operations, follows:

	Budgeted Unit Volume	Direct Labor Hours per unit
Fluffs	80,000 boxes	0.10
Crinkles	60,000 boxes	0.20
Snaps	20,000 boxes	0.50

Bugaboo has budgeted direct labor costs for May at \$8.50 per hour. Budgeted direct materials costs for May are: Fluffs, \$0.75/unit; Crinkles \$0.40/unit; and Snaps \$0.30/unit.

Bugaboo's budgeted overhead costs for May are:

Indirect labor	\$280,000
Utilities	65,000
Supplies	45,000
Depreciation	30,000
Total	<u>\$420,000</u>

Assume that Bugaboo sells all the boxes it produces in May.

- Compute Bugaboo's plantwide factory overhead rate for May.
- Compute the product cost in May for each type of cookie.
- Does Bugaboo's use of a plantwide factory overhead rate in any way distort the product costs for May?

ANSWER:

(a) Fluffs	$80,000 \times 0.10 =$	8,000
Crinkles	$60,000 \times 0.20 =$	12,000
Snaps	$20,000 \times 0.50 =$	<u>10,000</u>
Total		30,000 direct labor hours

Budgeted overhead costs / Budgeted plantwide allocation base =

Plantwide factory overhead rate

$\$420,000 / 30,000 \text{ direct labor hours} = \14.00 per direct labor hour

(b) Cost per box

Fluffs

Crinkles

Snaps

Chapter 4 - Activity-Based Costing

Direct materials	\$0.75	\$0.40	\$ 0.30
Direct labor	0.85	1.70	4.25
Overhead	<u>1.40</u>	<u>2.80</u>	<u>7.00</u>
Total manufacturing cost	<u>\$3.00</u>	<u>\$4.90</u>	<u>\$11.55</u>

- (c) A much higher overhead rate per box is being charged to the product that uses the highest amount of the single allocation base. This may be an incorrect allocation of factory overhead costs.

POINTS:

1

DIFFICULTY:

Moderate

Bloom's: Applying

LEARNING OBJECTIVES:

MANG.WARD.18.04-02 - 04-02

ACCREDITING STANDARDS: ACCT.ACBSAPC.27 - Managerial Accounting Features/Costs

ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

37. Kettle Factory produces two similar products - gloves and mittens. The total plant budget is \$1,050,000 with 600,000 estimated direct labor hours. It is further estimated that glove production will require 375,000 direct labor hours and mitten production will require 225,000 direct labor hours.

- Determine the single plant factory overhead rate based on direct labor hours.
- How much is the factory overhead cost per pair of gloves if each pair requires 2 hours to produce?
- How much is the factory overhead cost per pair of mittens if each pair takes 1.5 hours to produce?
- How much total factory overhead will be allocated to glove production if 187,500 pairs are budgeted and 190,000 pairs are actually produced during the period?
- How much total factory overhead will be allocated to mitten production if 150,000 pairs are budgeted and 140,000 pairs are actually produced during the period?

ANSWER:

- $\$1,050,000 / 600,000 = \1.75 per direct labor hour
- $2 \text{ hours} \times \$1.75 = \3.50
- $1.5 \text{ hours} \times \$1.75 = \$2.63$
- $\$3.50 \times 190,000 = \$665,000$
- $\$2.63 \times 140,000 = \$368,200$

POINTS:

1

DIFFICULTY:

Moderate

Bloom's: Applying

LEARNING OBJECTIVES:

MANG.WARD.18.04-02 - 04-02

ACCREDITING STANDARDS: ACCT.ACBSAPC.27 - Managerial Accounting Features/Costs

ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

38. Condelezza Co. manufactures two products, A and B, in two production departments, Assembly and Finishing. Condelezza Co. expects to produce 10,000 units of Product A and 20,000 units of Product B in the coming year. Budgeted factory overhead costs for the coming year are:

Assembly	\$310,000
Finishing	<u>240,000</u>

Chapter 4 - Activity-Based Costing

Total \$550,000

The machine hours expected to be used in the coming year are as follows:

	Assembly Dept.	Finishing Dept.
Product A	15,100	9,000
Product B	<u>4,900</u>	<u>11,000</u>
Total	<u>20,000</u>	<u>20,000</u>

- (a) Compute the plantwide factory overhead rate.
Compute the production department factory overhead rates.
- (b) Compute the factory overhead per unit for each product using (1) the single plantwide rate and (2) production department factory overhead rates.
- (c) Which method is better (plantwide or department)? Why?

ANSWER:

- (a) Factory overhead rates:

Plantwide = \$550,000 / 40,000 machine hours
= \$13.75 per machine hour

Production department rates:

Assembly Dept. = \$310,000 / 20,000 machine hours
= \$15.50 per machine hour

Finishing Dept. = \$240,000 / 20,000 machine hours
= \$12.00 per machine hour

- (b) Factory overhead cost per unit:

(1) Plantwide rate

Product A: $\$13.75 \text{ per mh} \times 20,000 \text{ hours} = \$275,000$
Per unit: $\$275,000 / 10,000 = \27.50

Product B: $\$13.75 \text{ per mh} \times 20,000 \text{ hours} = \$275,000$
Per unit: $\$275,000 / 20,000 = \13.75

(2) Departmental rate

Product A: $\$15.50 \text{ per mh} \times 15,100 \text{ mh} = \$234,050$
 $\$12.00 \text{ per mh} \times 9,000 \text{ mh} = \underline{108,000}$
Total \$342,050

Per unit: $\$342,050 / 10,000 = \underline{\$34.21}$

Product B: $\$15.50 \text{ per mh} \times 4,900 \text{ mh} = \$75,950$
 $\$12.00 \text{ per mh} \times 11,000 \text{ mh} = \underline{132,000}$

Total \$207,950

Per unit: $\$207,950 / 20,000 = \underline{\$10.40}$

- (c) The department rate method is better. This method is more accurate. Using the plantwide method undercosts each unit of A and overcosts each unit of B.

POINTS:

1

DIFFICULTY:

Bloom's: Applying

Chapter 4 - Activity-Based Costing

Challenging

LEARNING OBJECTIVES: MANG.WARD.18.04-02 - 04-02
MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARDS: ACCT.ACBS.P.APC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

39. Tulip Company produces two products, T and U. The indirect labor costs include the following two items:

Plant supervision	\$ 700,000
Setup labor (indirect)	<u>300,000</u>
Total indirect labor	<u>\$1,000,000</u>

The following activity-base usage and unit production information is available for the two products:

	Number of <u>Setups</u>	Direct Labor <u>Hours</u>	<u>Units</u>
Product T	200	20,000	900
Product U	<u>200</u>	<u>30,000</u>	<u>1,100</u>
Total	<u>400</u>	<u>50,000</u>	<u>2,000</u>

- Determine the single plantwide factory overhead rate, using direct labor hours as the activity base.
- Determine the factory overhead cost per unit for Products T and U, using the single plantwide factory overhead rate.
- Determine the activity rate for plant supervision and setup labor, assuming that the activity base for supervision is direct labor hours and the activity base for setup labor is number of setups.
- Determine the factory overhead cost per unit for Products T and U, using activity-based costing.
- Why is the factory overhead cost per unit different for the two products under the two methods?

ANSWER: (a) Single plantwide factory overhead rate = $\$1,000,000 / 50,000 \text{ dlh}$
= \$20 per dlh

(b)	Direct Labor <u>Hours</u>	×	<u>Rate</u>	=	<u>Overhead</u>	÷	<u>Units</u>	=	<u>Overhead Per Unit</u>
Product T	20,000		\$20		\$400,000		900		\$444.44
Product U	30,000		\$20		\$600,000		1,100		\$545.45

(c) Activity rates:	<u>Setup</u>	<u>Supervision</u>
Activity cost	\$300,000	\$700,000
Activity base	÷ 400	÷ 50,000
Activity rate	<u>\$ 750</u> per setup	<u>\$ 14</u> per dlh

(d) Product T: Activity-Base Usage × Activity = Cost

Chapter 4 - Activity-Based Costing

		<u>Rate</u>	
Setup	200	\$750	\$150,000
Production	20,000	\$ 14	<u>280,000</u>
Total			\$430,000
Units			<u>÷ 900</u>
Factory overhead cost per unit			<u>\$ 477.78</u>

	Activity- Base				
Product U:	<u>Usage</u>	×	<u>Rate</u>	=	<u>Cost</u>
Setup	200		\$750		\$150,000
Production	30,000		\$ 14		<u>420,000</u>
Total					\$570,000
Units					<u>÷ 1,100</u>
Factory overhead cost per unit					<u>\$ 518.18</u>

- (e) The factory overhead cost per unit under the single plantwide rate method is distorted because Product U consumes more setup-related activity, relative to the amount of direct labor consumed, than does Product T. Thus, the activity-based approach, which separates setup according to its own activity base, provides a more accurate estimate of the factory overhead cost per unit.

POINTS:

1

DIFFICULTY:

Bloom's: Applying
Challenging

LEARNING OBJECTIVES:

MANG.WARD.18.04-02 - 04-02
MANG.WARD.18.04-04 - 04-04

ACCREDITING STANDARDS:

ACCT.ACBSAPC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

40. Multiple production department factory overhead rates are most useful when production departments significantly differ in their manufacturing processes.

- True
- False

ANSWER:

True

POINTS:

1

DIFFICULTY:

Easy
Bloom's: Remembering

LEARNING OBJECTIVES:

MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARDS:

ACCT.ACBSAPC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

41. Multiple production department factory overhead rates are most useful when production departments are very similar in their manufacturing processes.

- True
- False

Chapter 4 - Activity-Based Costing

ANSWER: False

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARDS: ACCT.ACBSAPC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

42. Multiple production department factory overhead rates are more accurate than are plantwide factory overhead rates.

a. True

b. False

ANSWER: True

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARDS: ACCT.ACBSAPC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

43. Multiple production department factory overhead rates are less accurate than are plantwide factory overhead rates.

a. True

b. False

ANSWER: False

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARDS: ACCT.ACBSAPC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

44. Use of a plantwide factory overhead rate does not distort product costs when there are differences in the factory overhead rates across different production departments.

a. True

b. False

ANSWER: False

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARDS: ACCT.ACBSAPC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

45. Use of a plantwide factory overhead rate does not distort product costs when products require different ratios of

Chapter 4 - Activity-Based Costing

allocation-base usage in each production department.

- a. True
- b. False

ANSWER: False

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

46. Use of a plantwide factory overhead rate distorts product costs when there are differences in the factory overhead rates across different production departments and when products require different ratios of allocation-base usage in each production department.

- a. True
- b. False

ANSWER: True

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

47. When production departments differ significantly in their manufacturing process, it is recommended that the single plantwide factory overhead rate be used for allocating factory overhead.

- a. True
- b. False

ANSWER: False

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

48. In an effort to simplify the multiple production department factory overhead rate method, the same rate can be used for all departments.

- a. True
- b. False

ANSWER: False

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

Chapter 4 - Activity-Based Costing

LEARNING OBJECTIVES: MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs
 ACCT.IMA.07 - Cost Management
 BUSPROG: Analytic

Blue Ridge Marketing Inc. manufactures two products, A and B. Presently, the company uses a single plantwide factory overhead rate for allocating overhead to products. However, management is considering moving to a multiple department rate system for allocating overhead. The following table presents information about estimated overhead and direct labor hours.

	<u>Overhead</u>	Direct Labor <u>Hours (dlh)</u>	Product	
			<u>A</u>	<u>B</u>
Painting Dept.	\$248,000	10,000 dlh	16 dlh	4 dlh
Finishing Dept.	<u>72,000</u>	<u>10,000</u>	<u>4</u>	<u>16</u>
Totals	<u>\$320,000</u>	<u>20,000 dlh</u>	<u>20 dlh</u>	<u>20 dlh</u>

49. Determine the overhead in the Painting Department for each unit of Product B if Blue Ridge Marketing Inc. uses a multiple department rate system.

- a. \$49.60 per unit
- b. \$99.20 per unit
- c. \$28.80 per unit
- d. \$64.00 per unit

ANSWER:

b

RATIONALE:

Overhead rate per hour for the Painting Department = Total estimated overhead of the Painting Department ÷ Total estimated direct labor hours = \$248,000 ÷ 10,000 direct labor hours = \$24.80 per direct labor hour
 Overhead per unit for the Painting Department = Overhead rate per hour × Direct labor hours used per unit of Product B = \$24.80 × 4 direct labor hours = \$99.20 per unit

POINTS:

1

DIFFICULTY:

Bloom's: Applying
 Moderate

LEARNING OBJECTIVES: MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs
 ACCT.IMA.07 - Cost Management
 BUSPROG: Analytic

50. Determine the overhead in the Finishing Department for each unit of Product A if Blue Ridge Marketing Inc. uses a multiple department rate system.

- a. \$99.20 per unit
- b. \$49.60 per unit
- c. \$64.00 per unit
- d. \$28.80 per unit

ANSWER:

d

RATIONALE:

Overhead rate per hour for the Finishing Department = Total estimated overhead of the Finishing Department ÷ Total estimated direct labor hours = \$72,000 ÷ 10,000 direct labor hours = \$7.20 per direct labor hour

Chapter 4 - Activity-Based Costing

Overhead per unit for the Finishing Department = Overhead rate per hour \times Direct labor hours used per unit of Product A = $\$7.20 \times 4$ direct labor hours = $\$28.80$ per unit

POINTS: 1

DIFFICULTY: Bloom's: Applying
Moderate

LEARNING OBJECTIVES: MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARDS: ACCT.ACBSAPC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

51. Determine the overhead from both production departments allocated to each unit of Product A if Blue Ridge Marketing Inc. uses a multiple department rate system.

- a. \$396.80 per unit
- b. \$425.60 per unit
- c. \$320.00 per unit
- d. \$214.40 per unit

ANSWER: b

RATIONALE:

	Allocation Base Usage per Unit	\times	Production Department Factory Overhead Rate	=	Allocat Factor Overhead Unit of Pr
<i>Product A</i>					
Painting Department	16 direct labor hours	\times	\$24.80* per dlh	=	\$396.8
Finishing Department	4 direct labor hours	\times	\$ 7.20** per dlh	=	28.8
Total overhead cost per unit of Product A					\$425.6

Production Department Factory Overhead Rate = Budgeted Department Factory Overhead \div Budgeted Department Allocation Base

Overhead rate per hour for the Painting Department = $\$248,000 \div 10,000$ estimated direct labor hours = $\$24.80^*$

Overhead rate per hour for the Finishing Department = $\$72,000 \div 10,000$ estimated direct labor hours = $\$7.20^{**}$

POINTS: 1

DIFFICULTY: Bloom's: Applying
Moderate

LEARNING OBJECTIVES: MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARD ACCT.ACBSAPC.27 - Managerial Accounting Features/Costs
S: ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

52. Determine the overhead from both production departments allocated to each unit of Product B if Blue Ridge Marketing Inc. uses a multiple department rate system.

Chapter 4 - Activity-Based Costing

- a. \$425.60 per unit
- b. \$115.20 per unit
- c. \$214.40 per unit
- d. \$320.00 per unit

ANSWER:

c

RATIONALE:

	Allocation Base Usage per Unit	×	Production Department Factory Overhead Rate	=	Allocate Factory Overhead Unit of Pro
<i>Product A</i>					
Painting Department	4 direct labor hours	×	\$24.80* per dlh	=	\$ 99.20
Finishing Department	16 direct labor hours	×	\$ 7.20** per dlh	=	115.20
Total overhead cost per unit of Product A					\$214.40

Production Department Factory Overhead Rate = Budgeted Department Factory Overhead ÷ Budgeted Department Allocation Base

Overhead rate per hour for the Painting Department = \$248,000 ÷ 10,000 estimated direct labor hours = \$24.80* per direct labor hour

Overhead rate per hour for the Finishing Department = \$72,000 ÷ 10,000 estimated direct labor hours = \$7.20** per direct labor hour

POINTS:

1

DIFFICULTY:

Bloom's: Applying
Moderate

LEARNING OBJECTIVES: MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARD ACCT.AC BSP.APC.27 - Managerial Accounting Features/Costs

S: ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

The Kaumajet Factory produces two products - table lamps and desk lamps. It has two separate departments - Finishing and Production. The overhead budget for the Finishing Department is \$550,000, using 500,000 direct labor hours. The overhead budget for the Production Department is \$400,000 using 80,000 direct labor hours.

53. If the budget estimates that a table lamp will require 2 hours of finishing and 1 hours of production, how much factory overhead will the Kaumajet Factory allocate to each unit of table lamp using the multiple production department factory overhead rate method with an allocation base of direct labor hours?

- a. \$6.33
- b. \$4.91
- c. \$5.00
- d. \$7.20

ANSWER:

d

RATIONALE:

Chapter 4 - Activity-Based Costing

	Allocation Base Usage per Unit	×	Production Department Factory Overhead Rate	=	Allocated Factory Overhead per Unit of Product
Table lamp					
Finishing Department	2 direct labor hours	×	\$1.10* per dlh	=	\$2.20
Production Department	1 direct labor hour	×	\$5.00** per dlh	=	5.00
Total overhead cost per table lamp					\$7.20

Production Department Factory Overhead Rate = Budgeted Department Factory Overhead ÷ Budgeted Department Allocation Base

Overhead rate per hour for the Finishing Department = \$550,000 ÷ 500,000 estimated direct labor hours = \$1.10* per direct labor hour

Overhead rate per hour for the Production Department = \$400,000 ÷ 80,000 estimated direct labor hours = \$5.00** per direct labor hour

POINTS:

1

DIFFICULTY:

Bloom's: Applying
Challenging

LEARNING OBJECTIVES: MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARD ACCT.AC BSP.APC.27 - Managerial Accounting Features/Costs

S: ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

54. If the budget estimates that a desk lamp will require 1 hours of finishing and 2 hours of production, how much factory overhead will the Kaumajet Factory allocate to each unit of desk lamps using the multiple production department factory overhead rate method with an allocation base of direct labor hours?

- a. \$11.10
- b. \$4.91
- c. \$5.00
- d. \$7.20

ANSWER:

a

RATIONALE:

	Allocation Base Usage per Unit	×	Production Department Factory Overhead Rate	=	Allocate Factory Overhead Unit of Prc
Desk lamp					
Finishing Department	1 direct labor hour	×	\$1.10* per dlh	=	\$ 1.10
Production Department	2 direct labor hours	×	\$5.00** per dlh	=	10.00
Total overhead cost per table lamp					\$11.10

Production Department Factory Overhead Rate = Budgeted Department Factory Overhead ÷ Budgeted Department Allocation Base

Overhead rate per hour for the Finishing Department = \$550,000 ÷ 500,000 estimated direct labor hours = \$1.10* per direct labor hour

Chapter 4 - Activity-Based Costing

Overhead rate per hour for the Production Department = $\$400,000 \div 80,000$ estimated direct labor hours = $\$5.00^{**}$ per direct labor hour

POINTS: 1

DIFFICULTY: Bloom's: Applying
Challenging

LEARNING OBJECTIVES: MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARD ACCT.ACBS.P.APC.27 - Managerial Accounting Features/Costs

S: ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

55. If the budget estimates that a table lamp will require 2 hours of finishing and 1 hours of production, what is the total amount of factory overhead the Kaumajet Factory will allocate to table lamps using the multiple production department factory overhead rate method with an allocation base of direct labor hours, if 75,000 units are produced?

- a. \$368,250
- b. \$540,000
- c. \$832,500
- d. \$475,000

ANSWER: b

RATIONALE: Factory overhead allocated to 75,000 table lamps = $\$7.20^1 \times 75,000$ units = \$540,000

	Allocation Base Usage per Unit	×	Production Department Factory Overhead Rate	=	Allocate Factory Overhead Unit of Prc
Table lamp					
Finishing Department	2 direct labor hours	×	$\$1.10^*$ per dlh	=	\$2.20
Production Department	1 direct labor hour	×	$\$5.00^{**}$ per dlh	=	5.00
Total overhead cost per table lamp					\$7.20 ¹

Production Department Factory Overhead Rate = Budgeted Department Factory Overhead \div Budgeted Department Allocation Base

Overhead rate per hour for the Finishing Department = $\$550,000 \div 500,000$ estimated direct labor hours = $\$1.10^*$ per direct labor hour

Overhead rate per hour for the Production Department = $\$400,000 \div 80,000$ estimated direct labor hours = $\$5.00^{**}$ per direct labor hour

POINTS: 1

DIFFICULTY: Bloom's: Applying
Challenging

LEARNING OBJECTIVES: MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARD ACCT.ACBS.P.APC.27 - Managerial Accounting Features/Costs

S: ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

56. If the budget estimates that a desk lamp will require 1 hours of finishing and 2 hours of production, what is the total amount of factory overhead the Kaumajet Factory will allocate to desk lamps using the multiple production department factory overhead rate method with an allocation base of direct labor hours, if 26,000 units are produced?

Chapter 4 - Activity-Based Costing

- a. \$540,000
- b. \$187,200
- c. \$475,000
- d. \$288,600

ANSWER: d

RATIONALE:

Factory overhead allocated to 26,000 desk lamps = $\$11.10^1 \times 26,000 \text{ units} = \$288,600$
 Production Department Factory Overhead Rate = Budgeted Department Factory Overhead \div
 Budgeted Department Allocation Base
 Overhead rate per hour for the Finishing Department = $\$550,000 \div 500,000 \text{ estimated direct labor hours} = \1.10^* per direct labor hour
 Overhead rate per hour for the Production Department = $\$400,000 \div 80,000 \text{ estimated direct labor hours} = \5.00^{**} per direct labor hour

	Allocation Base Usage per Unit	×	Production Department Factory Overhead Rate	=	Allocate Factory Overhead Unit of Pro
Desk lamp					
Finishing Department	1 direct labor hour	×	$\$1.10^*$ per dlh	=	\$ 1.10
Production Department	2 direct labor hours	×	$\$5.00^{**}$ per dlh	=	10.00
Total overhead cost per table lamp					\$11.10 ¹

POINTS: 1

DIFFICULTY: Bloom's: Applying
Challenging

LEARNING OBJECTIVES: MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARD ACCT.ACBSAPC.27 - Managerial Accounting Features/Costs

S: ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

57. Using multiple department factory overhead instead of a single plantwide factory overhead rate:

- a. results in more accurate product costs
- b. results in distorted product costs
- c. is simpler and less expensive to compute than a plantwide rate
- d. applies overhead costs to all departments equally

ANSWER: a

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARDS: ACCT.ACBSAPC.27 - Managerial Accounting Features/Costs

ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

58. Scoresby Co. uses 6 machine hours and 2 direct labor hours to produce Product X. It uses 8 machine hours and 16 direct labor hours to produce Product Y. Scoresby's Assembly and Finishing departments have factory overhead rates of \$240 per machine hour and \$160 per direct labor hour, respectively. How much overhead cost will be charged to the two

Chapter 4 - Activity-Based Costing

products?

- Product X = \$3,200; Product Y = \$9,600
- Product X = \$800; Product Y = \$800
- Product X = \$1,760; Product Y = \$4,480
- Product X = \$1,440; Product Y = \$2,560

ANSWER: c

RATIONALE:

	Allocation Base Usage per Unit	×	Production Department Factory Overhead Rate	=	Allocated Factory Overhead per Unit of Product
<i>Product X</i>					
Assembly Department	6 direct machine hours	×	\$240 per dmh	=	\$1,440.00
Finishing Department	2 direct labor hours	×	\$160 per dlh	=	<u>320.00</u>
Total overhead cost per unit of Product X					<u>\$1,760.00</u>
<i>Product Y</i>					
Assembly Department	8 direct machine hours	×	\$240 per dmh	=	\$1,920.00
Finishing Department	16 direct labor hours	×	\$160 per dlh	=	<u>2,560.00</u>
Total overhead cost per unit of Product Y					<u>\$4,480.00</u>

POINTS: 1

DIFFICULTY: Bloom's: Applying
Moderate

LEARNING OBJECTIVES: MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARD ACCT.ACBS.P.APC.27 - Managerial Accounting Features/Costs

S: ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

59. Using a plantwide factory overhead rate distorts product costs when:

- products require different ratios of allocation-base usage in each production department
- significant differences exist in the factory overhead rates used across different production departments
- both A and B are true
- neither A nor B are true

ANSWER: c

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARDS: ACCT.ACBS.P.APC.27 - Managerial Accounting Features/Costs

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BUSPROG: Analytic

The Aleutian Company produces two products, Rings and Dings. They are manufactured in two departments—Fabrication and Assembly. Data for the products and departments are listed below.

Product	Number of units	Labor hrs per unit	Machine hours per unit
Rings	1,000	4	6
Dings	2,000	3	9

All of the machine hours take place in the Fabrication Department, which has an estimated overhead of \$90,000. All of the labor hours take place in the Assembly Department, which has an estimated total overhead of \$105,000.

The Aleutian Company uses departmental overhead rates. The Fabrication Department uses machine hours for an allocation base, and the Assembly Department uses labor hours.

60. What is the Assembly Department overhead rate per labor hour?

- a. \$10.50
- b. \$19.50
- c. \$3.75
- d. \$4.38

ANSWER:

a

RATIONALE:

Assembly Department overhead rate per labor hour = \$105,000 / 10,000 direct labor hours*
= \$10.50

Product	Number of Units	×	Labor Hours per Unit	=	Total Labor Hours
Rings	1,000 units	×	4 direct labor hours	=	4,000 direct labor hours
Dings	2,000 units	×	3 direct labor hours	=	6,000 direct labor hours
Total					10,000 direct labor hours*

POINTS:

1

DIFFICULTY:

Bloom's: Applying
Moderate

LEARNING OBJECTIVES: MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARDS ACCT.ACBS.P.APC.27 - Managerial Accounting Features/Costs

: ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

61. What is the overhead cost per unit for Rings?

- a. \$65.25
- b. \$23.25
- c. \$44.10
- d. \$64.50

ANSWER:

d

RATIONALE:

Overhead cost per unit for Rings = (Assembly Department overhead rate per labor hour × Labor hours per unit) + (Fabrication Department overhead rate per machine hour × Machine hours per unit)

Chapter 4 - Activity-Based Costing

Overhead cost per unit for Rings = $(\$10.50^1 \times 4 \text{ direct labor hours}) + (\$3.75^2 \times 6 \text{ machine hours}) = \$42 + \$22.50 = \64.50

Assembly Department overhead rate per labor hour = $\$105,000 / 10,000 \text{ direct labor hours}^* = \10.501

Product	Number of Units	×	Labor Hours per Unit	=	Total Labor Hours
Rings	1,000 units	×	4 direct labor hours	=	4,000 direct labor hours
Dings	2,000 units	×	3 direct labor hours	=	6,000 direct labor hours
Total					10,000 direct labor hours*

Fabrication Department overhead rate per machine hour = $\$90,000 / 24,000 \text{ machine hours}^{**} = \3.752

Product	Number of Units	×	Machine Hours per Unit	=	Total Labor Hours
Rings	1,000 units	×	6 machine hours	=	6,000 machine hour
Dings	2,000 units	×	9 machine hours	=	18,000 machine hours
Total					24,000 machine hours**

POINTS:

1

DIFFICULTY:

Bloom's: Applying
Moderate

LEARNING OBJECTIVES: MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARDS ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs

: ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

62. What is the overhead cost per unit for Dings?

- a. \$65.25
- b. \$56.75
- c. \$23.25
- d. \$64.50

ANSWER:

a

RATIONALE:

Overhead cost per unit for Dings = (Assembly Department overhead rate per labor hour × Labor hours per unit) + (Fabrication Department overhead rate per machine hour × Machine hours per unit)

Overhead cost per unit for Dings = $(\$10.50^1 \times 3 \text{ direct labor hours}) + (\$3.75^2 \times 9 \text{ machine hours}) = \$31.50 + \$33.75 = \65.25

Assembly Department overhead rate per labor hour = $\$105,000 / 10,000 \text{ direct labor hours}^* = \10.501

Product	Number of Units	×	Labor Hours per Unit	=	Total Labor Hours
Rings	1,000 units	×	4 direct labor hours	=	4,000 direct labor hours
Dings	2,000 units	×	3 direct labor	=	6,000 direct labor

Chapter 4 - Activity-Based Costing

			hours		hours
Total					10,000 direct labor hours*

Fabrication Department overhead rate per machine hour = $\$90,000 / 24,000$ machine

hours** = $\$3.752$

Product	Number of Units	×	Machine Hours per Unit	=	Total Labor Hours
Rings	1,000 units	×	6 machine hours	=	6,000 machine hour
Dings	2,000 units	×	9 machine hours	=	18,000 machine hours
Total					24,000 machine hours**

POINTS:

1

DIFFICULTY:

Bloom's: Applying
Moderate

LEARNING OBJECTIVES: MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARDS ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs

: ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

63. What is the Fabrication Department overhead rate per machine hour?

- a. \$10.50
- b. \$9.00
- c. \$8.12
- d. \$3.75

ANSWER:

d

RATIONALE:

Fabrication Department overhead rate per machine hour = $\$90,000 / 24,000$ machine

hours* = $\$3.75$

Product	Number of Units	×	Machine Hours per Unit	=	Total Labor Hours
Rings	1,000 units	×	6 machine hours	=	6,000 machine hou
Dings	2,000 units	×	9 machine hours	=	18,000 machine hc
Total					24,000 machine hours*

POINTS:

1

DIFFICULTY:

Bloom's: Applying
Moderate

LEARNING OBJECTIVES: MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARDS ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs

: ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

64. All of the following can be used as an allocation base for calculating factory overhead rates except:

- a. direct labor dollars
- b. direct labor hours
- c. machine hours

Chapter 4 - Activity-Based Costing

d. total units produced

ANSWER: d

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARDS: ACCT.ACbsp.APC.27 - Managerial Accounting Features/Costs
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BUSPROG: Analytic

65. Which of the following are the two most common allocation bases for factory overhead?

- a. Total overhead dollars and machine hours
- b. Direct labor hours and machine hours
- c. Direct labor hours and factory expenses
- d. Machine hours and factory expenses

ANSWER: b

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARDS: ACCT.ACbsp.APC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

66. Explain why it is imperative that proper factory overhead be allocated in factories that produce multiple products.

ANSWER: Proper allocation of factory overhead avoids "bad pricing." If too much overhead is allocated to a unit, then overpricing could be the outcome. On the other hand, if a product is not charged enough overhead, then underpricing could occur. Both situations can be very detrimental to the profits of the company.

POINTS: 1

DIFFICULTY: Moderate
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARDS: ACCT.ACbsp.APC.27 - Managerial Accounting Features/Costs
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BUSPROG: Analytic

67. The Camper's Edge Factory produces two products - canopies and tents. It has two separate departments - Cutting and Sewing. The budget is \$350,000 for the Cutting Department and \$400,000 for the Sewing Department. Each canopy requires 2 hours of cutting and 1 hour of sewing. Each tent requires 1 hour of cutting and 6 hours of sewing. The budget estimates that 20,000 canopies and 10,000 tents will be manufactured during the year. Determine (a) the total number of budgeted direct labor hours for the year in each department, (b) the departmental factory overhead rates for both departments, and (c) the factory overhead allocated per unit of each product using the department factory overhead allocation rates using direct labor hours as the base.

ANSWER: (a)
Cutting: $(20,000 \text{ canopies} \times 2 \text{ dlh}) + (10,000 \text{ tents} \times 1 \text{ dlh}) = 50,000$ direct labor hours
Sewing: $(20,000 \text{ canopies} \times 1 \text{ dlh}) + (10,000 \text{ tents} \times 6 \text{ dlh}) = 80,000$ direct labor hours

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(b)

Cutting: $\$350,000 / 50,000 \text{ dlh} = \7.00

Sewing: $\$400,000 / 80,000 \text{ dlh} = \5.00

(c)

Canopy:

Cutting: $2 \text{ dlh} \times \$7.00 = \14.00

Sewing: $1 \text{ dlh} \times \$5.00 = \underline{5.00}$

Total FOH per canopy = $\$19.00$

Tent:

Cutting: $1 \text{ dlh} \times \$7.00 = \7.00

Sewing: $6 \text{ dlh} \times \$5.00 = \underline{30.00}$

Total FOH per tent = $\$37.00$

POINTS:

1

DIFFICULTY:

Moderate

Bloom's: Applying

LEARNING OBJECTIVES: MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARDS: ACCT.ACBSAPC.27 - Managerial Accounting Features/Costs

ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

68. Ratchford Clocks manufactures alarm clocks and wall clocks and allocates overhead based on direct labor hours. The production process is set up in three departments: Assembly, Finishing, and Calibrating. The following is information regarding the direct labor used to produce one unit of the two clocks:

Per Unit Hours:	Assembly	Finishing	Calibrating
Alarm clocks	3	1	1
Wall clocks	<u>2</u>	<u>3</u>	<u>2</u>
	5	4	3

The budget includes the following factory overhead by department:

Assembly Department	\$595,000
Finishing Department	200,000
Calibrating Department	<u>140,000</u>
Total	<u>\$935,000</u>

Ratchford Clocks is planning to manufacture 50,000 alarm clocks and 10,000 wall clocks.

- Determine the total number of hours that will be needed by department.
- Determine the factory overhead rate by department using the multiple production department factory overhead rate method.
- Determine the amount of factory overhead to be allocated to each unit of alarm clocks and wall clocks.
- Determine the amount of total factory overhead to be allocated to the alarm clocks and wall clocks.

ANSWER:

(a) Assembly: $(3 \text{ dlh} \times 50,000) + (2 \text{ dlh} \times 10,000) = 170,000 \text{ dlh}$

Finishing: $(1 \text{ dlh} \times 50,000) + (3 \text{ dlh} \times 10,000) = 80,000 \text{ dlh}$

Chapter 4 - Activity-Based Costing

$$\text{Calibrating: } (1 \text{ dlh} \times 50,000) + (2 \text{ dlh} \times 10,000) = 70,000 \text{ dlh}$$

- (b) Assembly: $(\$595,000 / 170,000) = \3.50 per direct labor hour
 Finishing: $(\$200,000 / 80,000) = \2.50 per direct labor hour
 Calibrating: $(\$140,000 / 70,000) = \2.00 per direct labor hour

- (c) Alarm clock:
 $(3 \text{ dlh} \times \$3.50) + (1 \text{ dlh} \times \$2.50) + (1 \text{ dlh} \times \$2.00) = \$15.00$ per unit

Wall clock
 $(2 \text{ dlh} \times \$3.50) + (3 \text{ dlh} \times \$2.50) + (2 \text{ dlh} \times \$2.00) = \$18.50$ per unit

(d) Alarm Clock:	$(50,000 \text{ units} \times \$15.00) =$	\$750,000
Wall Clock:	$(10,000 \text{ units} \times \$18.50) =$	<u>185,000</u>
	Total	<u>\$935,000</u>

POINTS:

1

DIFFICULTY:

Moderate
 Bloom's: Applying

LEARNING OBJECTIVES: MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARDS: ACCT.ACBSAPC.27 - Managerial Accounting Features/Costs
 ACCT.IMA.07 - Cost Management
 BUSPROG: Analytic

69. The Anazi Leather Company manufactures leather handbags and moccasins. The company has been using the factory overhead rate method but has decided to evaluate the multiple production department factory overhead rate to allocate factory overhead. The factory overhead estimated per unit together with direct materials and direct labor will help determine selling prices.

Handbags = 60,000 units, 3 hours of direct labor

Moccasins = 40,000 units, 2 hours of direct labor

Total budgeted factory overhead cost = \$360,000

The company has two different production departments: Cutting and Sewing. The Cutting Department has a factory overhead budget of \$80,000. Each unit will require 1 direct labor hour or a total of 100,000 direct labor hours.

The Sewing Department estimates factory overhead in the amount of \$280,000. Handbags require 2 hours of sewing time and Moccasins require 1 hour for a total of 160,000 labor hours.

Calculate the total factory overhead to be allocated to each product using direct labor hours.

ANSWER: Cutting Department rate per hour = $\$80,000 / 100,000 = \0.80
 Sewing Department rate per hour = $\$280,000 / 160,000 = \1.75

Moccasins:

$$(1 \times \$0.80 \times 40,000 \text{ units}) + (1 \text{ hour} \times \$1.75 \times 40,000 \text{ units}) = \$102,000$$

Handbags:

$$(1 \times \$0.80 \times 60,000 \text{ units}) + (2 \text{ hours} \times \$1.75 \times 60,000 \text{ units}) = \$258,000$$

Total factory overhead allocation	<u>\$360,000</u>
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POINTS:

1

DIFFICULTY:

Moderate
 Bloom's: Applying

Chapter 4 - Activity-Based Costing

LEARNING OBJECTIVES: MANG.WARD.18.05-03 - 05-03

ACCREDITING STANDARDS: ACCT.AC BSP.APC.27 - Managerial Accounting Features/Costs
ACCT. IMA.07 - Cost Management
BUSPROG: Analytic

70. Activity cost pools are cost accumulations associated with a given activity.

- a. True
- b. False

ANSWER: True

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.04-04 - 04-04

ACCREDITING STANDARDS: ACCT.AC BSP.APC.27 - Managerial Accounting Features/Costs
ACCT. IMA.07 - Cost Management
BUSPROG: Analytic

71. Activity cost pools are assigned to products, using factory overhead rates for each activity.

- a. True
- b. False

ANSWER: True

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.04-04 - 04-04

ACCREDITING STANDARDS: ACCT.AC BSP.APC.27 - Managerial Accounting Features/Costs
ACCT. IMA.07 - Cost Management
BUSPROG: Analytic

72. Activity rates are computed by dividing the cost budgeted for each activity pool by the estimated activity base for that pool.

- a. True
- b. False

ANSWER: True

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.04-04 - 04-04

ACCREDITING STANDARDS: ACCT.AC BSP.APC.27 - Managerial Accounting Features/Costs
ACCT. IMA.07 - Cost Management
BUSPROG: Analytic

73. Direct labor hours is **not** a cost pool that is regularly used in the activity-based costing method.

- a. True
- b. False

ANSWER: False

POINTS: 1

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DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.04-04 - 04-04

ACCREDITING STANDARDS: ACCT.AC BSP.APC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

74. Estimated activity-base usage quantities are the total activity-base quantities related to each product.
- True
 - False

ANSWER: True

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.04-04 - 04-04

ACCREDITING STANDARDS: ACCT.AC BSP.APC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

75. Activity-based costing is much easier to apply than single plantwide factory overhead allocation.
- True
 - False

ANSWER: False

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.04-04 - 04-04

ACCREDITING STANDARDS: ACCT.AC BSP.APC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

Panamint Systems Corporation is estimating activity costs associated with producing disk drives, tapes drives, and wire drives. The indirect labor can be traced to four separate activity pools. The budgeted activity cost and activity base data by product are provided below.

	Activity Cost	Activity Base
Procurement	\$ 370,000	Number of purchase orders
Scheduling	250,000	Number of production orders
Materials handling	500,000	Number of moves
Product development	730,000	Number of engineering changes
Production	1,500,000	Machine hours

	Number of Purchase Orders	Number of Production Orders	Number of Moves	Number of Engineering Changes	Machine Hours	Number of Units
Disk drives	4,000	300	1,400	10	2,000	2,000

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Tape drives	4,000	150	800	10	8,000	4,000
Wire drives	12,000	800	4,000	25	10,000	2,500

76. Determine the activity rate for procurement per purchase order.

- a. \$43.53
- b. \$18.50
- c. \$15.42
- d. \$37.00

ANSWER:

b

RATIONALE:

Activity Rate = Budgeted Activity Cost ÷ Total Activity-Base Usage

Activity	Budgeted Activity Cost	÷	Total Activity-Base Usage	=	Activity Rate
Procurement	\$370,000	÷	20,000* orders	=	\$18.50

Activity-Base Usage	
Products	Number of Purchase Orders
Disk drives	4,000 orders
Tape drives	4,000
Wire drives	12,000
Total	20,000* orders

POINTS:

1

DIFFICULTY:

Bloom's: Applying
Moderate

LEARNING OBJECTIVES: MANG.WARD.18.04-04 - 04-04

ACCREDITING STANDARD ACCT.AC BSP.APC.27 - Managerial Accounting Features/Costs

S: ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

77. Determine the activity rate per production order for scheduling.

- a. \$200.00
- b. \$20.00
- c. \$29.41
- d. \$10.42

ANSWER:

a

RATIONALE:

Activity Rate = Budgeted Activity Cost ÷ Total Activity-Base Usage

Activity	Budgeted Activity Cost	÷	Total Activity-Base Usage	=	Activity Rate
Scheduling	\$250,000	÷	1,250* orders	=	\$200

Activity-Base Usage	
Products	Number of Production Orders
Disk drives	300 orders
Tape drives	150
Wire drives	800

Chapter 4 - Activity-Based Costing

Total	1,250 * orders
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POINTS: 1

DIFFICULTY: Bloom's: Applying
Moderate

LEARNING OBJECTIVES: MANG.WARD.18.04-04 - 04-04

ACCREDITING STANDARD S: ACCT.ACBSB.APC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

78. Determine the activity rate for materials handling per move.

- a. \$58.82
- b. \$50.00
- c. \$20.83
- d. \$80.65

ANSWER: d

RATIONALE: Activity Rate = Budgeted Activity Cost ÷ Total Activity-Base Usage

Activity	Budgeted Activity Cost	÷	Total Activity-Base Usage	=	Activity
Materials handling	\$500,000	÷	6,200 * orders	=	\$80.65

Activity-Base Usage	
Products	Number of Moves
Disk drives	1,400 moves
Tape drives	800
Wire drives	4,000
Total	6,200*moves

POINTS: 1

DIFFICULTY: Bloom's: Applying
Moderate

LEARNING OBJECTIVES: MANG.WARD.18.04-04 - 04-04

ACCREDITING STANDARD S: ACCT.ACBSB.APC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

79. Determine the activity rate for product development per change.

- a. \$73,000
- b. \$8,588
- c. \$30,417
- d. \$16,222

ANSWER: d

RATIONALE: Activity Rate = Budgeted Activity Cost ÷ Total Activity-Base Usage

Activity	Budgeted Activity Cost	÷	Total Activity-Base Usage	=	Activity R
Product development	\$730,000	÷	45* changes	=	\$16,222

Chapter 4 - Activity-Based Costing

Activity-Base Usage	
Products	Number of Engineering Changes
Disk drives	10 changes
Tape drives	10
Wire drives	25
Total	45* changes

POINTS: 1

DIFFICULTY: Bloom's: Applying
Moderate

LEARNING OBJECTIVES: MANG.WARD.18.04-04 - 04-04

ACCREDITING STANDARD S: ACCT.AC BSP.APC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

80. Determine the activity rate for production per machine hour.

- a. \$62.50
- b. \$150.00
- c. \$75.00
- d. \$176.47

ANSWER: c

RATIONALE: Activity Rate = Budgeted Activity Cost ÷ Total Activity-Base Usage

Activity	Budgeted Activity Cost	÷	Total Activity-Base Usage	=	Activity F
Production	\$1,500,000	÷	20,000*machine hours	=	\$75

Activity-Base Usage	
Products	Number of Machine Hours
Disk drives	2,000 machine hours
Tape drives	8,000
Wire drives	10,000
Total	20,000* machine hour

POINTS: 1

DIFFICULTY: Bloom's: Applying
Moderate

LEARNING OBJECTIVES: MANG.WARD.18.04-04 - 04-04

ACCREDITING STANDARD S: ACCT.AC BSP.APC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

81. Determine the activity-based cost for each disk drive unit.

- a. \$92.25
- b. \$130.69
- c. \$394.12
- d. \$279.57

ANSWER: d

RATIONALE: The activity-based cost for each disk drive = \$559,132* ÷ 2,000 units = \$279.57

Chapter 4 - Activity-Based Costing

Activity	Activity-Base Usage	×	Activity Rate	=	Activity Cost
Procurement	4,000 orders	×	\$18.50 per order	=	\$ 74,000
Scheduling	300 orders	×	\$200 per order	=	60,000
Materials handling	1,400 moves	×	\$80.65 per move	=	112,910
Product development	10 engineering changes	×	\$16,222 per change	=	162,222
Production	2,000 machine hours	×	\$75 per machine hour	=	150,000
Total					\$559,132*

POINTS:

1

DIFFICULTY:

Bloom's: Applying
Challenging

LEARNING OBJECTIVES: MANG.WARD.18.04-04 - 04-04

ACCREDITING STANDARD ACCT.ACBS.P.APC.27 - Managerial Accounting Features/Costs

S: ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

82. Determine the activity-based cost for each wire drive unit.

- a. \$204.13
- b. \$173.51
- c. \$744.06
- d. \$394.12

ANSWER:

c

RATIONALE:

The activity-based cost for each wire drive = $\$1,860,150^* \div 2,500 \text{ units} = \744.06

Activity	Activity-Base Usage	×	Activity Rate	=	Activity Cost
Procurement	12,000 orders	×	\$18.50 per order	=	\$ 222,000
Scheduling	800 orders	×	\$200 per order	=	160,000
Materials handling	4,000 moves	×	\$80.65 per move	=	322,600
Product development	25 engineering changes	×	\$16,222 per change	=	405,550
Production	10,000 machine hours	×	\$75 per machine hour	=	750,000
Total					\$1,860,150*

POINTS:

1

DIFFICULTY:

Bloom's: Applying
Challenging

LEARNING OBJECTIVES: MANG.WARD.18.04-04 - 04-04

ACCREDITING STANDARD ACCT.ACBS.P.APC.27 - Managerial Accounting Features/Costs

S: ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

83. Determine the activity-based cost for each tape drive unit.

- a. \$97.73
- b. \$232.69

Chapter 4 - Activity-Based Costing

c. \$394.12

d. \$103.84

ANSWER:

b

RATIONALE:

The activity-based cost for each tape drive = $\$930,740^* \div 4,000 \text{ units} = \232.69

Activity	Activity-Base Usage	×	Activity Rate	=	Activity C
Procurement	4,000 orders	×	\$18.50 per order	=	\$ 74,00
Scheduling	150 orders	×	\$200 per order	=	30,00
Materials handling	800 moves	×	\$80.65 per move	=	64,52
Product development	10 engineering changes	×	\$16,222 per change	=	162,22
Production	8,000 machine hours	×	\$75 per machine hour	=	600,00
Total					\$930,74

POINTS:

1

DIFFICULTY:

Bloom's: Applying
Challenging

LEARNING OBJECTIVES: MANG.WARD.18.04-04 - 04-04

ACCREDITING STANDARD ACCT.ACBSAPC.27 - Managerial Accounting Features/Costs

S: ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

84. Which of the following is a cost pool used with the activity-based costing method?

- total selling and administrative overheads
- direct material dollars
- total factory overheads
- production setups

ANSWER:

d

POINTS:

1

DIFFICULTY:

Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.04-04 - 04-04

ACCREDITING STANDARDS: ACCT.ACBSAPC.27 - Managerial Accounting Features/Costs

ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

85. Activity rates are determined by

- dividing the actual cost for each activity pool by the actual activity base for that pool.
- dividing the cost budgeted for each activity pool by the estimated activity base for that pool.
- dividing the actual cost for each activity pool by the estimated activity base for that pool.
- dividing the cost budgeted for each activity pool by the actual activity base in that pool.

ANSWER:

b

POINTS:

1

DIFFICULTY:

Easy
Bloom's: Remembering

Chapter 4 - Activity-Based Costing

LEARNING OBJECTIVES: MANG.WARD.18.04-04 - 04-04

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs
 ACCT.IMA.07 - Cost Management
 BUSPROG: Analytic

86. Shubelik Company is changing to an activity-based costing method. They have determined that they will use three cost pools: setups, inspections, and assembly. Which of the following would not be used as the activity base for any of these three activities?

- number of units to be produced
- number of setups
- number of inspections
- number of direct labor hours

ANSWER: a

POINTS: 1

DIFFICULTY: Moderate
 Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.04-04 - 04-04

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs
 ACCT.IMA.07 - Cost Management
 BUSPROG: Analytic

87. Given the following information, determine the activity rate for setups.

Activity Pool	Activity Base	Budgeted Amount
Setups	10,000	\$180,000
Inspections	24,000	\$120,000
Assembly (DLH)	80,000	\$400,000

- \$58.00
- \$18.00
- \$.75
- \$5.09

ANSWER: b

RATIONALE: Activity Rate = Budgeted Activity Cost ÷ Total Activity-Base Usage
 Activity rate for setups = \$180,000 ÷ 10,000 setups = \$18.00 per setup

POINTS: 1

DIFFICULTY: Bloom's: Applying
 Easy

LEARNING OBJECTIVES: MANG.WARD.18.04-04 - 04-04

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs
 ACCT.IMA.07 - Cost Management
 BUSPROG: Analytic

The Skagit Company manufactures Hooks and Nooks. The following shows the activities per product and total activity information:

	Setups	Inspections	Assembly (dlh)
Hooks - 4,000 units	1	3	1
Nooks - 8,000 units	2	2	3

Chapter 4 - Activity-Based Costing

Activity Pool	Activity Base	Budgeted Amount
Setups	20,000	\$ 60,000
Inspections	24,000	120,000
Assembly (dlh)	28,000	420,000

88. Calculate the total factory overhead to be charged to each unit of Hooks.

- a. \$33
- b. \$50
- c. \$11
- d. \$61

ANSWER:

a

RATIONALE:

The total factory overhead to be charged to each unit of Hooks is \$33.*

Activity	Budgeted Activity Cost	÷	Activity-Base Usage	=	Activity Rate	×	Activity Usage	=	Activity Cost
Setups	\$60,000	÷	20,000 setups	=	\$3 per setup	×	1 setup	=	\$33
Inspections	\$120,000	÷	24,000 inspections	=	\$5 per inspection	×	3 inspections	=	\$150
Assembly (dlh)	\$420,000	÷	28,000 dlh	=	\$15 per dlh	×	1 dlh	=	\$150
Total									\$433

POINTS:

1

DIFFICULTY:

Bloom's: Applying
Moderate

LEARNING OBJECTIVES: MANG.WARD.18.04-04 - 04-04

ACCREDITING STANDARD ACCT.ACBS.P.APC.27 - Managerial Accounting Features/Costs

S: ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

89. Calculate the total factory overhead to be charged to Nooks.

- a. \$300,000
- b. \$400,000
- c. \$488,000
- d. \$600,000

ANSWER:

c

RATIONALE:

The total factory overhead to be charged to Nooks = \$61* × 8,000 units = \$488,000

Activity	Budgeted Activity Cost	÷	Activity-Base Usage	=	Activity Rate	×	Activity Usage	=	Activity Cost
Setups	\$60,000	÷	20,000 setups	=	\$3 per setup	×	2 setups	=	\$60,000
Inspections	\$120,000	÷	24,000	=	\$5 per	×	2	=	\$100,000

Chapter 4 - Activity-Based Costing

			inspections	=	inspection	×	inspections	=	
Assembly (dlh)	\$420,000	÷	28,000 dlh	=	\$15 per dlh	×	3 dlh	=	45
Total									\$61*

POINTS:

1

DIFFICULTY:

Bloom's: Applying
Moderate

LEARNING OBJECTIVES: MANG.WARD.18.04-04 - 04-04

ACCREDITING STANDARD ACCT.ACBS.P.APC.27 - Managerial Accounting Features/Costs

S: ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

The Dawson Company manufactures small lamps and desk lamps. The following shows the activities per product and the total overhead information:

	Setups	Inspections	Assembly (dlh)
Small Lamps - 3,000 units	8,000	9,000	16,000
Desk Lamps - 6,000 units	16,000	15,000	12,000

Activity Pool	Activity Base	Budgeted Amount
Setups	24,000	\$60,000
Inspections	24,000	\$120,000
Assembly (dlh)	28,000	\$280,000

90. Calculate the total factory overhead to be charged to desk lamps.

- a. \$306,667
- b. \$235,000
- c. \$230,000
- d. \$225,000

ANSWER:

b

RATIONALE:

The total factory overhead to be charged to the desk lamps = \$235,000*

Activity	Budgeted Activity Cost	÷	Activity-Base Usage	=	Activity Rate	×	Activity Usage	=	Activity Cost
Setups	\$60,000	÷	24,000 setups	=	\$2.50 per setup	×	16,000 setups	=	\$40,000
Inspections	\$120,000	÷	24,000 inspections	=	\$5.00 per inspection	×	15,000 inspections	=	75,000
Assembly (dlh)	\$280,000	÷	28,000 dlh	=	\$10.00 per dlh	×	12,000 dlh	=	120,000
Total									\$235,000

POINTS:

1

Chapter 4 - Activity-Based Costing

DIFFICULTY: Bloom's: Applying
Moderate

LEARNING OBJECTIVES: MANG.WARD.18.04-04 - 04-04

ACCREDITING STANDARD ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs
S: ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

91. Calculate the overhead per unit to be charged to small lamps.

- a. \$75.00
- b. \$39.17
- c. \$38.33
- d. \$17.50

ANSWER: a

RATIONALE: The overhead per unit to be charged to the small lamps = $\$225,000^* \div 3,000$ small lamps = \$75 per small lamp

Activity	Budgeted Activity Cost	÷	Activity-Base Usage	=	Activity Rate	×	Activity Usage	=	Activity Cost
Setups	\$60,000	÷	24,000 setups	=	\$2.50 per setup	×	8,000 setups	=	\$ 200,000
Inspections	\$120,000	÷	24,000 inspections	=	\$5.00 per inspection	×	9,000 inspections	=	450,000
Assembly (dlh)	\$280,000	÷	28,000 dlh	=	\$10.00 per dlh	×	16,000 dlh	=	160,000
Total									<u>\$225,000</u>

POINTS: 1

DIFFICULTY: Bloom's: Applying
Moderate

LEARNING OBJECTIVES: MANG.WARD.18.04-04 - 04-04

ACCREDITING STANDARD ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs
S: ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

92. The Bonnington Company manufactures small lamps and desk lamps. The following shows the activities per product:

	Setups	Inspections	Assembly (dlh)
Small Lamps - 4,000 units	4,000	15,000	6,000
Desk Lamps - 8,000 units	16,000	7,000	20,000

Using the following information prepared by the Bonnington Company, determine the total factory overhead to be charged to small lamps.

Activity Pool	Activity Base	Budgeted Amount
Setups	20,000	\$80,000
Inspections	22,000	\$132,000
Assembly (dlh)	26,000	\$416,000

- a. \$314,000
- b. \$209,333

Chapter 4 - Activity-Based Costing

c. \$202,000

d. \$104,000

ANSWER:

c

RATIONALE:

The total factory overhead to be charged to the small lamps = \$202,000*

Activity	Budgeted Activity Cost	÷	Activity-Base Usage	=	Activity Rate	×	Activity Usage	=	Activ Cos
Setups	\$80,000	÷	20,000 setups	=	\$4.00 per setup	×	4,000 setups	=	\$ 16,0
Inspections	\$132,000	÷	22,000 inspections	=	\$6.00 per inspection	×	15,000 inspections	=	90,0
Assembly (dlh)	\$416,000	÷	26,000 dlh	=	\$16.00 per dlh	×	6,000 dlh	=	<u>96,0</u>
Total									<u>\$202,0</u>

POINTS:

1

DIFFICULTY:

Bloom's: Applying
Moderate

LEARNING OBJECTIVES: MANG.WARD.18.04-04 - 04-04

ACCREDITING STANDARD ACCT.AC BSP.APC.27 - Managerial Accounting Features/Costs

S: ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

93. The Valhalla Company manufactures small lamps and desk lamps. The following shows the activities per product:

	Setups	Inspections	Assembly (dlh)
Small Lamps - 8,000 units	10,000	32,000	8,000
Desk Lamps - 16,000 units	30,000	14,000	46,000

Using the following information prepared by the Valhalla Company, determine (a) the activity rates for each activity and (b) the activity-based factory overhead per unit for each product.

Activity Pool	Activity Base	Budgeted Amount
Setups	40,000	\$160,000
Inspections	46,000	\$230,000
Assembly (dlh)	54,000	\$324,000

ANSWER:

(a) Setups: $\$160,000 / 40,000 = \4 per setup
 Inspections: $\$230,000 / 46,000 = \5 per inspection
 Assembly: $\$324,000 / 54,000 = \6 per direct labor hour

(b) Small Lamp:
 $(10,000 \times \$4) + (32,000 \times \$5) + (8,000 \times \$6) = \$248,000 / 8,000 = \$31.00$

Desk Lamp:
 $(30,000 \times \$4) + (14,000 \times \$5) + (46,000 \times \$6) = \$466,000 / 16,000 = \$29.13$

POINTS:

1

DIFFICULTY:

Moderate
Bloom's: Applying

Chapter 4 - Activity-Based Costing

LEARNING OBJECTIVES: MANG.WARD.18.04-04 - 04-04

ACCREDITING STANDARDS: ACCT.ACBS.P.APC.27 - Managerial Accounting Features/Costs
 ACCT.IMA.07 - Cost Management
 BUSPROG: Analytic

94. The Klamath Corp. produces two products, saws and drills. Three activities are used in their manufacture. These activities and their associated costs and bases are as follows:

<u>Activity</u>	<u>Budgeted Costs</u>	<u>Activity Base</u>
Stamping	\$200,000	Machine hours
Assembly	\$400,000	Labor hours
Setup	\$30,000	Number of setups

<u>Activity base</u>	<u>Saws</u>	<u>Drills</u>	<u>Total</u>
Machine hours	4,000	6,000	10,000
Labor hours	7,000	13,000	20,000
Number of setups	3	12	15

Units produced 500 600

Requirements:

- Determine the activity rate for each activity.
- Determine the overhead cost per unit for each product.

ANSWER:

(a)

Stamping: $\$200,000 / 10,000 = \20 per machine hour

Assembly: $\$400,000 / 20,000 = \20 per labor hour

Setup: $\$30,000 / 15 = \$2,000$ per setup

(b)

Saws: \$452 per unit $[(4,000 \times 20) + (7,000 \times 20) + (3 \times 2,000)] / 500$

Drills: \$673.33 per unit $[(6,000 \times 20) + (13,000 \times 20) + (12 \times 2,000)] / 600$

POINTS:

1

DIFFICULTY:

Moderate

Bloom's: Applying

LEARNING OBJECTIVES: MANG.WARD.18.04-04 - 04-04

ACCREDITING STANDARDS: ACCT.ACBS.P.APC.27 - Managerial Accounting Features/Costs
 ACCT.IMA.07 - Cost Management
 BUSPROG: Analytic

95. The Pikes Peak Leather Company manufactures leather handbags and moccasins. The company has been using the factory overhead rate method but has decided to evaluate activity based costing to allocate factory overhead. The factory overhead estimated per unit together with direct materials and direct labor will help determine selling prices.

Total budgeted factory overhead cost = \$360,000

Products	Cutting - direct labor hours	Sewing - direct labor hours	Set-Ups	QC - Inspections	Purchase Orders
Handbags	60,000	60,000	500	200	100
Moccasins	40,000	80,000	300	800	300
Total	100,000	140,000	800	1,000	400
Budget	\$40,000	\$210,000	\$80,000	\$20,000	\$10,000

Calculate the amount of factory overhead to be allocated to each unit using activity based costing. The factory plans to

Chapter 4 - Activity-Based Costing

produce 60,000 handbags and 40,000 moccasins.

ANSWER:

Handbags:

$$\text{Cutting} - \$40,000/100,000 \times 60,000 = \$24,000$$

$$\text{Sewing} - \$210,000/140,000 \times 60,000 = 90,000$$

$$\text{Set-Ups} - \$80,000/800 \times 500 = 50,000$$

$$\text{QC Inspections} - \$20,000/1,000 \times 200 = 4,000$$

$$\text{PO's} - \$10,000/400 \times 100 = \underline{2,500}$$

$$\text{Total allocation of factory overhead} = \frac{\$170,500}{60,000} = \$2.84 \text{ per unit}$$

Moccasins:

$$\text{Cutting} - \$40,000/100,000 \times 40,000 = \$16,000$$

$$\text{Sewing} - \$210,000/140,000 \times 80,000 = 120,000$$

$$\text{Set-Ups} - \$80,000/800 \times 300 = 30,000$$

$$\text{QC Inspections} - \$20,000/1,000 \times 800 = 16,000$$

$$\text{PO's} - \$10,000/400 \times 300 = \underline{7,500}$$

$$\text{Total allocation of factory overhead} = \frac{\$189,500}{40,000} = \$4.74 \text{ per unit}$$

POINTS:

1

DIFFICULTY:

Challenging

Bloom's: Applying

LEARNING OBJECTIVES:

MANG.WARD.18.04-04 - 04-04

ACCREDITING STANDARDS:

ACCT.ACBSAPC.27 - Managerial Accounting Features/Costs

ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

96. Service organizations can use activity-based costing to allocate selling and administrative costs to services provided.

a. True

b. False

ANSWER:

True

POINTS:

1

DIFFICULTY:

Bloom's: Remembering

Easy

LEARNING OBJECTIVES:

MANG.WARD.18.04-05 - 04-05

ACCREDITING STANDARDS:

ACCT.ACBSAPC.27 - Managerial Accounting Features/Costs

ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

97. ABC is used to allocate selling and administrative expenses to each product based on the product's individual differences in consuming these activities.

a. True

b. False

ANSWER:

True

POINTS:

1

DIFFICULTY:

Easy

Chapter 4 - Activity-Based Costing

Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.04-05 - 04-05

ACCREDITING STANDARDS: ACCT.ACBSAPC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

98. Activity-based costing can be used to allocate period costs to various products that the company sells.
- a. True
 - b. False

ANSWER: True

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.04-05 - 04-05

ACCREDITING STANDARDS: ACCT.ACBSAPC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

99. Activity-based costing can only be used to allocate manufacturing factory overhead.
- a. True
 - b. False

ANSWER: False

POINTS: 1

DIFFICULTY: Bloom's: Remembering
Easy

LEARNING OBJECTIVES: MANG.WARD.18.04-05 - 04-05
MANG.WARD.18.04-06 - 04-06

ACCREDITING STANDARDS: ACCT.ACBSAPC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

100. If selling and administrative expenses are allocated to different products, they should be reported as a
- a. cost of goods manufactured
 - b. factory overhead cost
 - c. period cost
 - d. cost of goods sold

ANSWER: c

POINTS: 1

DIFFICULTY: Moderate
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.04-05 - 04-05

ACCREDITING STANDARDS: ACCT.ACBSAPC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

101. Activity-based costing for selling and administrative expenses can also be beneficial in allocating expenses to various products. Which of the following is the best allocation base for help desk costs?

Chapter 4 - Activity-Based Costing

- Number of calls
- Square footage of the help desk office
- Number of products sold
- Number of sales employees

ANSWER: a

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.04-05 - 04-05

ACCREDITING STANDARDS: ACCT.ACBS.PC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

102. Shanghai Company sells glasses, fine china, and everyday dinnerware. They use activity-based costing to determine the cost of the shipping and handling activity. The shipping and handling activity has an activity rate of \$14 per pound. A box of glasses weighs 2 lbs, the box of china weighs 4 lbs, and a box of everyday dinnerware weighs 6 lbs. (a) Determine the shipping and handling activity for each product and (b) determine the total shipping and receiving costs for the china if 3,500 boxes are shipped.

ANSWER:

(a) Glasses: $2\text{lbs} \times \$14 = \28
China: $4\text{lbs} \times \$14 = \56
Everyday dinnerware: $6\text{lbs} \times \$14 = \84

(b) $\$56 \times 3,500 = \$196,000$

POINTS: 1

DIFFICULTY: Easy
Bloom's: Applying

LEARNING OBJECTIVES: MANG.WARD.18.04-05 - 04-05

ACCREDITING STANDARDS: ACCT.ACBS.PC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

103. In a service organization, the multiple department overhead rate method is the most effective in providing information about the cost of services.

- True
- False

ANSWER: False

POINTS: 1

DIFFICULTY: Bloom's: Remembering
Easy

LEARNING OBJECTIVES: MANG.WARD.18.04-06 - 04-06

ACCREDITING STANDARDS: ACCT.ACBS.PC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

104. Service companies can effectively use multiple department overhead rate costing to compute product (service) costs.

- True
- False

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ANSWER: False

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.04-06 - 04-06

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

105. Service companies can effectively use single facility-wide overhead costing to compute product (service) costs.

- a. True
- b. False

ANSWER: False

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.04-06 - 04-06

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

106. Service companies can effectively use activity-based costing to compute product (service) costs.

- a. True
- b. False

ANSWER: True

POINTS: 1

DIFFICULTY: Easy
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.04-06 - 04-06

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

107. Which of the following is **not** a reason for banks to use activity-based costing?

- a. to determine the amounts charged to customers for services provided
- b. to determine service quality
- c. to determine profitability of services provided
- d. all of the above

ANSWER: b

POINTS: 1

DIFFICULTY: Moderate
Bloom's: Remembering

LEARNING OBJECTIVES: MANG.WARD.18.04-06 - 04-06

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs
ACCT.IMA.07 - Cost Management
BUSPROG: Analytic

Chapter 4 - Activity-Based Costing

The Beauty Beyond Words Salon uses an activity-based costing system in its beauty salon to determine the cost of services. The salon has determined the costs of services by activity as follows:

Activity	Activity Rate
Hair washing	\$4.00
Conditioning	\$3.50
Chemical treatment	\$25.00
Styling	\$10.00

	Hair Washing	Conditioning	Chemical Treatment	Styling
Haircut	1	1	0	0
Complete style	1	1	0	1
Perm	2	3	1	1
Highlights	3	4	2	1

108. Calculate the cost of services for a haircut.

- a. \$4.00
- b. \$7.50
- c. \$3.50
- d. \$11.50

ANSWER:

b

RATIONALE:

The cost of services for a haircut = \$7.50*

Activity	Activity Rate	×	Activity Usage	=	Activity Cost
Hair washing	\$4 per hair wash	×	1	=	\$4.00
Conditioning	\$3.50 per conditioning	×	1	=	3.50
Chemical treatment	\$25 per treatment	×	0	=	0.00
Styling	\$10 per styling	×	0	=	0.00
Total					<u>\$7.50*</u>

POINTS:

1

DIFFICULTY:

Bloom's: Applying
Easy

LEARNING OBJECTIVES: MANG.WARD.18.04-06 - 04-06

ACCREDITING STANDARDS: ACCT.ACBSP.APC.27 - Managerial Accounting Features/Costs

ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

109. Calculate the cost of services for a highlight.

ANSWER:

Hair washing	3	\$4.00	\$12.00
Conditioning	4	\$3.50	14.00
Chemical treatment	2	\$25.00	50.00
Styling	1	\$10.00	10.00
Total			<u>\$86.00</u>

Chapter 4 - Activity-Based Costing

POINTS:

1

DIFFICULTY:

Moderate

Bloom's: Applying

LEARNING OBJECTIVES:

MANG.WARD.18.04-06 - 04-06

ACCREDITING STANDARDS:

ACCT.ACBSAPC.27 - Managerial Accounting Features/Costs

ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

110. Transformations Hair Salon uses an activity-based costing system in its beauty salon to determine the cost of services. The salon has determined the costs of services by activity as follows:

Activity	Activity Rate
Hair washing	\$1.50
Conditioning	\$2.00
Chemical treatment	\$20.00
Styling	\$10.00

- (a) Using the information provided, determine the cost of services for each of the following services provided by the salon:

	Hair Washing	Conditioning	Chemical Treatment	Styling
Haircut	1	1	0	0
Complete style	1	1	0	1
Perm	2	3	1	1
Highlights	3	4	2	1

- (b) If the company budgets 10,000 haircuts, 4,000 complete styles, 3,500 perms, and 5,500 highlights, determine the budget for cost of services.

ANSWER:

(a) Haircuts: $\$1.50 + \$2.00 = \$3.50$

Style: $\$1.50 + \$2.00 + \$10.00 = \13.50

Perm: $(\$1.50 \times 2) + (\$2.00 \times 3) + \$20.00 + \$10.00 = \$39.00$

Highlights:

$(\$1.50 \times 3) + (\$2.00 \times 4) + (\$20.00 \times 2) + \$10.00 = \$62.50$

(b)

Services	Per Unit Cost	Total # of Services	Total Costs
Haircut	\$3.50	10,000	\$35,000
Complete style	\$13.50	4,000	\$54,000
Perm	\$39.00	3,500	\$136,500
Highlights	\$62.50	5,500	<u>\$343,750</u>
Total			<u>\$569,250</u>

POINTS:

1

DIFFICULTY:

Challenging

Bloom's: Applying

LEARNING OBJECTIVES:

MANG.WARD.18.04-06 - 04-06

ACCREDITING STANDARDS:

ACCT.ACBSAPC.27 - Managerial Accounting Features/Costs

ACCT.IMA.07 - Cost Management

BUSPROG: Analytic

Chapter 4 - Activity-Based Costing