Chapter 2
Job Order Costing

Review Questions

1. If the manager knows the cost to produce each unit of product, then the manager can plan for and control the cost of resources needed to create the product and deliver it to the customer. It enables them to determine which product to produce, set sales prices that will lead to profits, determine how many products to produce, compute cost of goods sold for the income statement, and compute the cost of inventory for the balance sheet.

2. Companies that manufacture unique products or provide specialized services, such as accounting firms, music studios, health-care providers, building contractors, and custom furniture manufacturers, use job order costing systems.

3. Companies that produce identical units through a series of production steps or processes, such as soft drink companies, surfboard manufacturers, and medical equipment manufacturers, use process costing systems.

4. A job cost record is a document that shows the direct materials, direct labor, and manufacturing overhead costs for an individual job and allows the company to track the costs of individual jobs.

5. When a company finishes a job, it totals the costs and transfers them to Finished Goods Inventory, an asset account. These costs are called Cost of Goods Manufactured. When the job's units are sold, the costing system moves the costs from Finished Goods Inventory, an asset, to Cost of Goods Sold, an expense. These costs are called Cost of Goods Sold.

6. May 31—Work-in-Process Inventory on the balance sheet; June 30—Finished Goods Inventory on the balance sheet; July 31—Cost of Goods Sold on the income statement.

7.

Date	Accounts and Explanation	Debit	Credit
	Raw Materials Inventory	XX	
	Accounts Payable		XX

This transaction increases assets (Raw Materials Inventory) and increases liabilities (Accounts Payable).

8. The use of a raw materials subsidiary ledger allows for better control of inventory as it helps track the quantity and cost of each type of material used in production. A subsidiary ledger contains the details of a general ledger account, and the sum of the accounts in the subsidiary ledger equals the balance in the general ledger account.

9. The cost of direct materials is transferred out of Raw Materials Inventory (credit) and is assigned to Work-in-Process Inventory (debit). The cost of indirect materials is transferred out of the Raw Materials Inventory account (credit) and is accumulated in the Manufacturing Overhead account (debit).

10.

Date	Accounts and Explanation	Debit	Credit
	Work-In-Process Inventory (direct labor)	XX	
	Manufacturing Overhead (indirect labor)	XX	
	Wages Payable		XX

This transaction increases assets (Work-in-Process Inventory), increases liabilities (Wages Payable), and decreases equity (Manufacturing Overhead).

11. Student answer will vary. The following are some examples of manufacturing overhead costs:

a. Plant utilities
b. Depreciation on manufacturing plant and equipment
c. Plant insurance
d. Plant property taxes
e. Rent on the manufacturing plant

They are considered indirect costs because they can't be easily traced to individual jobs.

12. The predetermined overhead allocation rate is the estimated manufacturing overhead cost per unit of the allocation base, calculated at the beginning of the period.

13. The allocation base is a denominator that links overhead costs to the products. Ideally, the allocation base is the primary cost driver of manufacturing overhead. Examples: direct labor hours, direct labor cost, machine hours.

14. Manufacturing overhead is allocated to jobs based on a predetermined overhead allocation rate. The rate should be based on the primary cost driver.

15. Unit product cost = Cost of goods manufactured / Total units produced.

16. To allocate manufacturing overhead, Work-in-Process Inventory is debited and Manufacturing Overhead is credited. Work-in-Process Inventory, an asset, is increased and Manufacturing Overhead is decreased, which increases equity.

17. When a job is completed, Finished Goods Inventory is debited and Work-in-Process Inventory is credited. The effect on the accounting equation is that one asset (Finished Goods Inventory) is increased and another asset (Work-in-Process Inventory) is decreased.

18. One journal entry is required to recognize the revenue earned (sales price) and another journal entry is required to remove the product from inventory when it is shipped to the customer and recognize the expense incurred (cost).

Date	Accounts and Explanation	Debit	Credit
	Accounts Receivable	XXX	
	Sales Revenue		XXX
	Cost of Goods Sold	XX	
	Finished Goods Inventory		XX

19. Underallocated overhead occurs when actual manufacturing overhead costs are more than allocated manufacturing overhead costs. Overallocated overhead occurs when actual manufacturing overhead costs are less than allocated manufacturing costs. This is caused by the fact that overhead is allocated using a predetermined overhead allocation rate that is based on estimates.

20. The overhead is overallocated because the company allocated more than the actual overhead costs. The amount is $325 ($5,575 – $5,250).

21.

Date	Accounts and Explanation	Debit	Credit
	Manufacturing Overhead	325	
	Cost of Goods Sold		325

22. Costs are *accumulated* in various accounts as they are incurred. Direct costs are *assigned* to individual jobs and recorded on the job cost records. Manufacturing overhead costs (indirect costs) are *allocate*d to individual jobs based on a predetermined overhead allocation rate. The Manufacturing Overhead account is *adjusted* at the end of the period for the amount of underallocated or overallocated manufacturing overhead.

23. Service companies, like manufacturing companies, work on individual, unique jobs and need to know the cost of the jobs. Knowing the full cost of a job allows for better pricing decisions.

24. Indirect costs are allocated to jobs using the predetermined overhead allocation rate.

Short Exercises

S-M:2-1

a.	A manufacturer of refrigerators	Process
b.	A manufacturer of specialty wakeboards	Job Order
c.	A manufacturer of luxury yachts	Job Order
d.	A professional services firm	Job Order
e.	A landscape contractor	Job Order
f.	A custom home builder	Job Order
g.	A cell phone manufacturer	Process
h.	A manufacturer of frozen pizzas	Process
i.	A manufacturer of multivitamins	Process
j.	A manufacturer of tennis shoes	Process

S-M:2-2

Date	Accounts and Explanation	Debit	Credit
	Raw Materials Inventory ($72,000 + $1,200)	73,200	
	Accounts Payable		73,200
	Work-in-Process Inventory	59,000	
	Manufacturing Overhead	450	
	Raw Materials Inventory		59,450

Raw Materials Inventory

Bal.	38,000		
Purchased	73,200	59,450	Used
Bal.	51,750		

The ending balance of the Raw Materials Inventory account is *$51,750*.

S-M:2-3

Total materials used	($35 + $215 – $10)	$240
Direct materials used	($25 + $280 + $150 – $505 – $40)	$90
Indirect materials used	($240 – $90)	$150

S-M:2-4

Date	Accounts and Explanation	Debit	Credit
	Work-in-Process Inventory	74,000	
	Manufacturing Overhead ($620 + $860)	1,480	
	Wages Payable		75,480

S-M:2-5

Manufacturing Overhead = $18,000 + $5,300 + $45,000 = $68,300

Date	Accounts and Explanation	Debit	Credit
	Manufacturing Overhead	18,000	
	Raw Materials Inventory		18,000
	Manufacturing Overhead	5,300	
	Accumulated Depreciation—Saws		5,300
	Manufacturing Overhead	45,000	
	Wages Payable		45,000

These costs are not overhead costs:

- Wood is a direct material
- Depreciation on the delivery truck is a selling and administrative expense (period cost, not a product cost)
- Assembly-line workers' wages are direct labor

S-M:2-6

Direct materials	$ 550
Direct labor	400
Manufacturing overhead ($400 × 0.40)	160
Total cost of Job 303	$ 1,110

S-M:2-7

$$\text{Predetermined Overhead Allocation Rate} = \frac{\text{Total estimated overhead cost}}{\text{Total estimated quantity of the overhead allocation base}}$$

$$= \frac{\$80{,}750}{4{,}750 \text{ DLHr}} = \$17 \text{ per DLHr}$$

Allocated Manufacturing Overhead Cost		Predetermined Overhead Allocation Rate		Actual Quantity of the Allocation Based used by Each Job
	=	$17 per DLHr	×	4,600 DLHr
	=	$78,200		

Date	Accounts and Explanation	Debit	Credit
	Work-in-Process Inventory	78,200	
	Manufacturing Overhead		78,200

S-M:2-8

Date	Accounts and Explanation	Debit	Credit
	Finished Goods Inventory	38,000	
	Work-in-Process Inventory		38,000
	Accounts Receivable	88,000	
	Sales Revenue		88,000
	Cost of Goods Sold	42,000	
	Finished Goods Inventory		42,000

S-M:2-9
Requirement 1

Total debits = $3,500 + $19,000 + $34,500 = $57,000

Requirement 2

Total credits = $50,600

Requirement 3

Underallocated by $6,400 (Difference between total debits and total credits = $57,000 – $50,600)

S-M:2-10
Requirements 1, 2 and 3

Allocated overhead	–	Actual Overhead		
$203,000	–	$195,000	=	$8,000 overallocated

S-M:2-11

Date	Accounts and Explanation	Debit	Credit
	Cost of Goods Sold ($148,000 – $147,000)	1,000	
	Manufacturing Overhead		1,000

S-M:2-12

Account	Is increased by:	Is decreased by:
Raw Materials Inventory	Materials purchased	Materials used
Work-in-Process Inventory	Direct materials used Direct labor incurred Manufacturing overhead allocated	Completion of jobs
Finished Goods Inventory	Completion of jobs	Shipping sold jobs
Cost of Goods Sold	Shipping sold jobs Adjusting entry for underallocated overhead	Adjusting entry for overallocated overhead

S-M:2-13

FOX COMPANY
Schedule of Cost of Goods Manufactured
Year Ended December 31, 20XX

(In millions)		
Beginning Work-in-Process Inventory		$ 40
Direct Materials Used	120	
Direct Labor	250	
Manufacturing Overhead Allocated	125	
Total Manufacturing Costs Incurred during the Year		495
Total Manufacturing Costs to Account For		535
Ending Work-in-Process Inventory		(60)
Cost of Goods Manufactured		**$ 475**

S-M:2-14

COYOTE COMPANY
Income Statement (Partial)
Year Ended December 31, 20XX

(In millions)		
Net Sales Revenue		$ 332
Cost of Goods Sold:		
Beginning Finished Goods Inventory	$ 62	
Cost of Goods Manufactured	248	
Cost of Goods Available for Sale	310	
Ending Finished Goods Inventory	(45)	
Cost of Goods Sold		265
Gross Profit		**$ 67**

S-M:2-15
Requirement 1

Work hours per year	=	Hours per week	×	Weeks per year
	=	30 hours	×	50 weeks
	=	1,500 hours		

Yearly rate	/	Hours per year	=	Cost per hour
$90,000	/	1,500 hours	=	$60.00 per hour

Requirement 2

Hours worked	×	Rate per hour	=	Direct Labor Cost
15 hours	×	$60.00 per hour	=	$900.00

S-M:2-16
Requirement 1

$$\text{Predetermined Overhead Allocation Rate} = \frac{\text{Total estimated overhead costs}}{\text{Total estimated quantity of the overhead allocation base}}$$

$$= \frac{\$96{,}000}{8{,}000 \text{ DLHr}} = \$12 \text{ per DLHr}$$

Requirement 2

Indirect Costs	=	Predetermined Overhead Allocation Rate	×	Actual Quantity of the Allocation Base Used		
	=	$12 per DLHr	×	15 DLHr	=	$180

Exercises

E-M:2-17

a.	Companies that produce small quantities of many different products.	Job Order
b.	A company that pulverizes wood into pulp to manufacture cardboard.	Process
c.	A company that manufactures thousands of identical files.	Process
d.	Companies that produce large numbers of identical products.	Process
e.	A computer repair service that makes service calls to homes.	Job Order
f.	A company that assembles electronic parts and software to manufacture millions of portable media players.	Process
g.	A textbook publisher that produces copies of a particular book in batches.	Job Order
h.	A company that bottles milk into one-gallon containers.	Process
i.	A company that makes large quantities of one type of tankless hot water heaters.	Process
j.	A governmental agency that takes bids for specific items it utilizes where each item requires a separate bid.	Job Order

E-M:2-18

a.	A record used to assign direct labor cost to specific jobs.	4. Labor Time Record
b.	A document that requests the transfer of materials to the production floor.	5. Materials Requisition
c.	A document that shows the direct materials, direct labor, and manufacturing overhead costs for an individual job.	2. Job Cost Record
d.	An accounting system that accumulates costs by process.	6. Process Costing System
e.	The production of a unique product or specialized service	1. Job
f.	Used by companies that manufacture unique products or provide specialized services.	3. Job Order Costing System

E-M:2-19

(a) Work-in-Process Inventory

Job	Cost
3	$ 6,000
Total	$ 6,000

(b) Finished Goods Inventory

Job	Cost
4	$ 4,400
Total	$ 4,400

(c) Cost of Goods Sold

Job	Cost
1	$ 3,400
2	13,700
Total	$ 17,100

E-M:2-20

Date	Accounts and Explanation	Debit	Credit
	Raw Materials Inventory	51,000	
	Accounts Payable		51,000
	Purchased raw materials on account.		
	Work-in-Process Inventory	42,300	
	Manufacturing Overhead	500	
	Raw Materials Inventory		42,800
	Used raw materials in production.		
	Work-in-Process Inventory	20,300	
	Manufacturing Overhead	1,340	
	Wages Payable		21,640
	Incurred labor in production.		

E-M:2-21
Requirement 1

$$\text{Predetermined Overhead Allocation Rate} = \frac{\text{Total estimated overhead cost}}{\text{Total estimated quantity of the overhead allocation base}}$$

$$= \frac{\$125{,}000}{\$78{,}125} = 1.60 \text{ or } 160\% \text{ of direct labor costs}$$

Requirement 2

Date	Accounts and Explanation	Debit	Credit
	Work-in-Process Inventory ($67,000 × 160%)	107,200	
	Manufacturing Overhead		107,200

E-M:2-22

Job Number 47								
Direct Materials			Direct Labor			Manufacturing Overhead		
Date	Requisition Number	Amount	Date	Labor Time Record Number	Amount	Date	Rate	Amount
3/12	256	$ 600	3/15	62	$ 160	3/31	40% of	$ 371
3/26	259	250	3/15	63	264		DL Cost	
			3/31	66	180			
			3/31	67	324			

Cost Summary	
Direct Materials	$ 850
Direct Labor	928
Manufacturing Overhead	371
Total Cost	$ 2,149

Job Number 48								
Direct Materials			Direct Labor			Manufacturing Overhead		
Date	Requisition Number	Amount	Date	Labor Time Record Number	Amount	Date	Rate	Amount
3/02	254	$ 1,200	3/15	62	$ 120	3/31	40% of	$ 282
3/21	258	375	3/15	64	270		DL Cost	
			3/31	65	100			
			3/31	66	216			

Cost Summary	
Direct Materials	$ 1,575
Direct Labor	706
Manufacturing Overhead	282
Total Cost	$ 2,563

E-M:2-22, con't.

Job Number 49								
Direct Materials			Direct Labor			Manufacturing Overhead		
Date	Requisition Number	Amount	Date	Labor Time Record Number	Amount	Date	Rate	Amount
3/05	255	$ 800	3/15	63	$ 216	3/31	40% of	$ 312
3/16	257	450	3/15	64	324		DL Cost	
			3/31	65	60			
			3/31	67	180			

Cost Summary	
Direct Materials	$ 1,250
Direct Labor	780
Manufacturing Overhead	312
Total Cost	$ 2,342

E-M:2-23
Requirement 1

Date	Accounts and Explanation	Debit	Credit
Jun. 30	Finished Goods Inventory ($48,000 + $40,000)	88,000	
	Work-in-Process Inventory		88,000

Requirement 2

Work-in-Process Inventory

Jun. 1 Bal.	26,000		
Direct materials used	38,000		
Direct labor assigned to jobs	42,000	48,000	Job 142 completed
MOH allocated to jobs	25,200	40,000	Job 143 completed
Jun. 30 Bal.	43,200		

Requirement 3

Date	Accounts and Explanation	Debit	Credit
Jun. 30	Accounts Receivable	63,000	
	Sales Revenue		63,000
	Cost of Goods Sold	40,000	
	Finished Goods Inventory		40,000

E-M:2-23, cont.
Requirement 4

Sales Revenue	$ 63,000
Cost of Goods Sold	40,000
Gross Profit	$ 23,000

E-M:2-24
Requirement 1

$$\text{Predetermined Overhead Allocation Rate} = \frac{\text{Total estimated overhead cost}}{\text{Total estimated quantity of the overhead allocation base}}$$

$$= \frac{\$840{,}000}{70{,}000 \text{ MHr}} = \$12 \text{ per MHr}$$

Requirement 2

Date	Accounts and Explanation	Debit	Credit
Dec. 31	Work-in-Process Inventory (60,000 MHr × $12/MHr)	720,000	
	Manufacturing Overhead		720,000

Requirement 3

Manufacturing Overhead		
620,000	720,000	
35,500		
17,000		
	47,500	Bal.

Manufacturing overhead is overallocated by $47,500.

Requirement 4

Date	Accounts and Explanation	Debit	Credit
Dec. 31	Manufacturing Overhead	47,500	
	Cost of Goods Sold		47,500

This entry decreases Cost of Goods Sold.

E-M:2-25
Requirement 1

Allocated manufacturing overhead	/	Predetermined overhead allocation rate	=	Machine hours
$409,200	/	$44 per MHr	=	9,300 MHr

Requirement 2

Allocated overhead	–	Actual Overhead	=	
$409,200	–	$432,000	=	$22,800 underallocated

Requirement 3

Date	Accounts and Explanation	Debit	Credit
Dec. 31	Cost of Goods Sold	22,800	
	Manufacturing Overhead		22,800

E-M:2-26

Item	Accounts and Explanation	Debit	Credit
a.	Website Expenses	2,000	
	Cash		2,000
b.	Work-in-Process Inventory	11,250	
	Manufacturing Overhead	3,750	
	Wages Payable		15,000
c.	Raw Materials Inventory	24,000	
	Accounts Payable		24,000
d.	Work-in-Process Inventory	7,500	
	Manufacturing Overhead	5,000	
	Raw Materials Inventory		12,500
e.	Manufacturing Overhead	18,000	
	Accumulated Depreciation—Plant		18,000
	Manufacturing Overhead	1,500	
	Prepaid Insurance		1,500
	Manufacturing Overhead	3,900	
	Property Tax Payable		3,900
f.	Work-in-Process Inventory ($11,250 × 200%)	22,500	
	Manufacturing Overhead		22,500
g.	Finished Goods Inventory	40,000	
	Work-in-Process Inventory		40,000
h.	Accounts Receivable	22,000	
	Sales Revenue		22,000
	Cost of Goods Sold	18,000	
	Finished Goods Inventory		18,000
i.	Cost of Goods Sold	9,650	
	Manufacturing Overhead		9,650
	Actual overhead ($3,750 + $5,000 + $18,000 + $1,500 + $3,900) – allocated overhead ($22,500) = $9,650		

E-M:2-27

a. Purchased raw materials on account.
b. Used direct and indirect materials in production (requisitioned direct and indirect materials).
c. Incurred and assigned manufacturing wages as direct and indirect labor.
d. Expired insurance on factory plant and/or equipment; accumulated in Manufacturing Overhead.
e. Allocated manufacturing overhead to jobs.
f. Completed jobs (transferred Work-in-Process Inventory to Finished Goods Inventory; Cost of Goods Manufactured).
g. Sold inventory (Cost of Goods Sold).
h. Adjusted underallocated balance of Manufacturing Overhead to Cost of Goods Sold.

E-M:2-28

a. Requisitioned Raw Materials in the amount of $19,000.
b. Direct Materials assigned to Work-in-Process Inventory, $17,000.
c. Completed jobs and assigned costs to Finished Goods Inventory, $37,000.
d. Cost of jobs sold and shipped (completed jobs), $24,000.
e. Labor incurred, $9,000 (direct labor assigned to Work-in-Process, $8,000; indirect labor accumulated in Manufacturing Overhead, $1,000).
f. Manufacturing Overhead adjusted for underallocated overhead, $1,500.
g. Jobs sold and costs assigned to Cost of Goods Sold, $24,000.

Raw Materials Inventory	
Bal. 2,000	
28,000	19,000 (a)
Bal. 11,000	

Work-in-Process Inventory	
Bal. 4,000	
(b) 17,000	37,000
8,000	
13,500	
Bal. 5,500	

Finished Goods Inventory	
Bal. 3,000	
(c) 37,000	24,000 (d)
Bal. 16,000	

Accumulated Depreciation	
	12,000

Accounts Payable	
	28,000

Wages Payable	
	9,000 (e)

Manufacturing Overhead	
2,000	13,500
1,000	1,500 (f)
12,000	
Bal. 0	

Cost of Goods Sold	
(g) 24,000	
1,500	
Bal. 25,500	

E-M:2-29

JORDAN COMPANY
Schedule of Cost of Goods Manufactured
Year Ended December 31, 2024
(in millions)

Beginning Work-in-Process Inventory		$ 5
Direct Materials Used	$ 31	
Direct Labor	62	
Manufacturing Overhead	20	
Total Manufacturing Costs Incurred during the Year		113
Total Manufacturing Costs to Account For		118
Ending Work-in-Process Inventory		(16)
Cost of Goods Manufactured		**$ 102**

JORDAN COMPANY
Income Statement
Year Ended December 31, 2024
(in millions)

Sales Revenue		$ 253
Cost of Goods Sold:		
Beginning Finished Goods Inventory	$ 12	
Cost of Goods Manufactured	102	
Cost of Goods Available for Sale	114	
Ending Finished Goods Inventory	(15)	
Cost of Goods Sold		99
Gross Profit		154
Selling and Administrative Expenses	85	
Total Selling and Admin. Expenses		85
Operating Income		**$ 69**

E-M:2-30
Requirement 1a

Direct labor costs	/	Direct labor hours	=	Direct labor cost rate
$2,200,000	/	13,750 DLHr	=	$160 per DLHr

Requirement 1b

Indirect costs:

Office rent	$ 330,000
Support staff salaries	1,200,000
Utilities	450,000
Total indirect costs	$ 1,980,000

$$\text{Predetermined Overhead Allocation Rate} = \frac{\text{Total estimated overhead cost}}{\text{Total estimated quantity of the overhead allocation base}}$$

$$= \frac{\$1,980,000}{\$2,200,000} = 0.90 = 90\% \text{ of direct labor costs}$$

Requirement 2

Direct labor: 180 DLHr × $160 per DLHr	$ 28,800
Indirect costs: $28,800 × 90%	25,920
Total predicted cost	$ 54,720

Requirement 3

Predicted cost	$ 54,720
Desired profit ($54,720 × 25%)	13,680
Required service revenue	$ 68,400

Andrew Chance should submit a bid of $68,400.

Problems (Group A)

P-M:2-31A

Requirement 1

Clement uses a job order costing system. We know this because Clement's costing records show costs being accumulated for each job.

Requirement 2

CLEMENT MANUFACTURING
Computation of Work-in-Process Inventory, Finished Goods Inventory, and Cost of Goods Sold for October and November

Date	Work-in-Process Inventory		Finished Goods Inventory		Cost of Goods Sold	
	Job	Cost	Job	Cost	Job	Cost
October 31:	3	$ 1,000	2	$ 1,400	1	$ 1,300
	4	1,200				
	Total	$ 2,200		$ 1,400		$ 1,300
November 30:	6	$ 500	4	$ 2,400	2	$ 1,400
					3	1,900
					5	650
	Total	$ 500	Total	$ 2,400	Total	$ 3,950

Requirement 3

Date	Accounts and Explanation	Debit	Credit
Oct. 31	Finished Goods Inventory (Jobs 1 & 2)	2,700	
	Work-in-Process Inventory		2,700
Nov. 30	Finished Goods Inventory (Jobs 3, 4 & 5)	4,950	
	Work-in-Process Inventory		4,950

P-M:2-31A, cont.
Requirement 4

Date	Accounts and Explanation	Debit	Credit
Nov. 30	Accounts Receivable	2,300	
	Sales Revenue		2,300
30	Cost of Goods Sold	1,900	
	Finished Goods Inventory		1,900

Requirement 5

The gross profit for Job 3 is:

Sales revenue	$ 2,300
Cost of goods sold	1,900
Gross profit	$ 400

P-M:2-32A
Requirement 1

JOB COST RECORD

Job Number 423
Customer Paradigm Pictures
Job Description 6,000 DVDs

Direct Materials			Direct Labor			Manufacturing Overhead		
Date	**Requisition Number**	**Amount**	**Date**	**Labor Time Record Number**	**Amount**	**Date**	**Rate**	**Amount**
4/2	63	$ 341	4/2	655	$ 160	4/3	140% of DL costs*	$ 644
4/2	64	725						
4/3	74	135	4/3	656	300			

Cost Summary

Direct Materials	$ 1,201
Direct Labor	460
Manufacturing Overhead	644
Total Cost	$ 2,305
Unit Cost	$0.38**

*$574,000 / $410,000 = 140%
**$2,305 / 6,000 DVDs = $0.38 per DVD (rounded)

Requirement 2

Date	Accounts and Explanation	Debit	Credit
Apr. 3	Work-in-Process Inventory	1,201	
	Raw Materials Inventory		1,201
3	Work-in-Process Inventory	460	
	Wages Payable		460
3	Work-in-Process Inventory	644	
	Manufacturing Overhead		644

P-M:2-32A, cont.
Requirement 3

Date	Accounts and Explanation	Debit	Credit
Apr. 3	Finished Goods Inventory	2,305	
	Work-in-Process Inventory		2,305
3	Accounts Receivable (6,000 DVDs × $1.20/DVD)	7,200	
	Sales Revenue		7,200
3	Cost of Goods Sold	2,305	
	Finished Goods Inventory		2,305

P-M:2-33A
Requirement 1

$$\text{Predetermined Overhead Allocation Rate} = \frac{\text{Total estimated overhead costs}}{\text{Total estimated quantity of the overhead allocation base}}$$

$$= \frac{\$1,150,000}{\$5,750,000} = 0.20 = 20\% \text{ of direct labor costs}$$

P-M:2-33A, cont.
Requirement 2

Date	Accounts and Explanation	Debit	Credit
Aug. 31			
a.	Raw Materials Inventory	400,000	
	Accounts Payable		400,000
b.	Work-in-Process Inventory[1]	267,000	
	Raw Materials Inventory		267,000
c.	Work-in-Process Inventory[2]	191,000	
	Construction Overhead[3]	109,000	
	Wages Payable		300,000
d.	Construction Overhead	6,700	
	Accumulation Depreciation—Equipment		6,700
e.	Construction Overhead	37,000	
	Cash		30,000
	Prepaid Insurance		7,000
f.	Work-in-Process Inventory[4]	38,200	
	Construction Overhead		38,200
g.	Finished Goods Inventory[5]	241,400	
	Work-in-Process Inventory		241,400
h.	Accounts Receivable	250,000	
	Sales Revenue		250,000
	Cost of Goods Sold[6]	130,600	
	Finished Goods Inventory		130,600

[1]$58,000 + $62,000 + $61,000 + $86,000 = $267,000
[2]$44,000 + $32,000 + $58,000 + $57,000 = $191,000
[3]$300,000 – $191,000 = $109,000
[4] $191,000 × 20% = $38,200
[5] House 402: $58,000 + $44,000 + ($44,000 × 0.20) = $110,800
House 404: $61,000 + $58,000 + ($58,000 × 0.20) = $130,600
Total: $110,800 + $130,600 = $241,400
[6]From above, House 404 = $130,600

P-M:2-33A, cont.
Requirement 3

Work-in-Process Inventory			
(b) DM	267,000	241,400	(g) COGM
(c) DL	191,000		
(f) OH	38,200		
Bal.	254,800		

Finished Goods Inventory			
(g) COGM	241,400	130,600	(h) COGS
Bal.	110,800		

Requirement 4

SUPERIOR CONSTRUCTION, INC.
Reconciliation of Work-in-Process Inventory Subsidiary
and Control Accounts
August 31

	House #403	House #405	Total WIP Balance
Unfinished houses:			
Direct Materials	$ 62,000	$ 86,000	
Direct Labor	32,000	57,000	
Construction Overhead (20% of direct labor)	6,400	11,400	
Total cost equals Ending Work-in-Process Inventory	$ 100,400	$ 154,400	$ 254,800

Requirement 5

SUPERIOR CONSTRUCTION, INC.
Reconciliation of Finished Goods Inventory Subsidiary
and Control Accounts
August 31

	House #402
Completed, unsold house:	
Direct Materials	$ 58,000
Direct Labor	44,000
Construction Overhead (20% of direct labor)	8,800
Total cost equals Ending Finished Goods Inventory	$ 110,800

P-M:2-33A, cont.
Requirement 6

SUPERIOR CONSTRUCTION, INC. Gross Profit on Homes Sold in August	
	House #404
Sales revenue	$ 250,000
Cost of goods sold	130,600
Gross profit	$ 119,400

The gross profit must cover these types of costs: selling and administrative expenses, income tax expense, customer service, design, distribution, marketing, research and development, and other expenses.

P-M:2-34A
Requirement 1

$$\text{Predetermined Overhead Allocation Rate} = \frac{\text{Total estimated overhead costs}}{\text{Total estimated quantity of the overhead allocation base}}$$

$$= \frac{\$222{,}400^*}{27{,}000 \text{ MHrs}} = \$8.24 \text{ per MHr (rounded)}$$

*$17,000 + $48,000 + $28,000 + $44,000 + $85,400 = $222,400

Requirement 2

Manufacturing Overhead		
	23,500	264,504*
	50,000	
	45,000	
	92,850	
	83,000	
Bal.	29,846	

*32,100 MHrs × $8.24 per MHr

P-M:2-34A, cont.
Requirement 3

Date	Accounts and Explanation	Debit	Credit
Dec. 31	Cost of Goods Sold	29,846	
	Manufacturing Overhead		29,846

Requirement 4
The actual manufacturing overhead rate is not known until the end of the period. Managers need to make decisions throughout the period. Accountants use predetermined overhead allocation rates to give managers product cost information when they need it—today.

P-M:2-35A
Requirement 1

Date	Accounts and Explanation	Debit	Credit
a.	Cash	145,000	
	Accounts Receivable		145,000
b.	Selling and Administrative Expenses	32,000	
	Cash		32,000
c.	Accounts Payable	39,000	
	Cash		39,000
d.	Raw Materials Inventory ($24,000 + $4,200)	28,200	
	Accounts Payable		28,200
e.	Work-in-Process Inventory ($950 + $7,900)	8,850	
	Manufacturing Overhead	1,200	
	Raw Materials Inventory		10,050
f.	Work-in-Process Inventory ($3,600 + $17,000)	20,600	
	Manufacturing Overhead	18,400	
	Wages Payable		39,000
g.	Wages Payable ($2,600 + $36,100)	38,700	
	Cash		38,700
h.	Manufacturing Overhead	2,500	
	Accumulated Depreciation—Plant and Equipment		2,500
i.	Work-in-Process Inventory	16,480	
	Manufacturing Overhead ($20,600 × 80%)		16,480
j.	Finished Goods Inventory	47,430	
	Work-in-Process Inventory		47,430
k.	Accounts Receivable	104,000	
	Sales Revenue		104,000
	Cost of Goods Sold	47,430	
	Finished Goods Inventory		47,430
l.	Cost of Goods Sold	5,620	
	Manufacturing Overhead		5,620
	($1,200 + $18,400 + $2,500 – $16,480)		

P-M:2-35A, cont.
Requirement 2

Cash			
Bal.	14,000	32,000	(b)
(a)	145,000	39,000	(c)
		38,700	(g)
Bal.	49,300		

Accounts Receivable			
Bal.	160,000	145,000	(a)
(k)	104,000		
Bal.	119,000		

Raw Materials Inventory			
Bal.	6,000	10,050	(e)
(d)	28,200		
Bal.	24,150		

Work-in-Process Inventory			
Bal.	40,000	47,430	(j)
(e)	8,850		
(f)	20,600		
(i)	16,480		
Bal.	38,500		

Finished Goods Inventory			
Bal.	20,400	47,430	(k)
(j)	47,430		
Bal.	20,400		

Property, Plant, and Equipment			
Bal.	220,000		

Accumulated Depreciation			
		75,000	Bal.
		2,500	(h)
		77,500	Bal.

Accounts Payable			
(c)	39,000	134,000	Bal.
		28,200	(d)
		123,200	Bal.

Wages Payable			
(g)	38,700	2,600	Bal.
		39,000	(f)
		2,900	Bal.

Common Stock			
		139,000	Bal.

Retained Earnings			
		109,800	Bal.

Sales Revenue			
		104,000	(k)

Cost of Goods Sold			
(k)	47,430		
(l)	5,620		
Bal.	53,050		

Manufacturing Overhead			
(e)	1,200	16,480	(i)
(f)	18,400	5,620	(l)
(h)	2,500		
Bal.	0		

Selling and Administrative Expenses			
(b)	32,000		

P-M:2-35A, cont.
Requirement 2, cont.

Raw Materials Inventory subsidiary ledger:

Paper			
Bal.	4,000	8,850	(e)
(d)	24,000		
Bal.	19,150		

Indirect Materials			
Bal.	2,000	1,200	(e)
(d)	4,200		
Bal.	5,000		

Total balances equal balance of Raw Materials Inventory, $24,150 ($19,150 + $5,000).

Work-in-Process Inventory subsidiary ledger:

Job 120			
Bal.	40,000	47,430	(j)
(e)	950		
(f)	3,600		
(i)	2,880		
Bal.	0		

Job 121			
Bal.	0		
(e)	7,900		
(f)	17,000		
(i)	13,600		
Bal.	38,500		

Total balance equal balance of Work-in-Process Inventory, $38,500 ($0 + $38,500).

Finished Goods Inventory subsidiary ledger:

Large Stars			
Bal.	9,900	47,430	(k)
(j)	47,430		
Bal.	9,900		

Small Stars			
Bal.	10,500		

Total balances equal balance of Finished Goods Inventory, $20,400 ($9,900 + $10,500).

P-M:2-35A, cont.
Requirement 3

MIGHTY STARS
Trial Balance
June 30, 2024

Account	Debit	Credit
Cash	$ 49,300	
Accounts Receivable	119,000	
Inventories:		
Raw Materials	24,150	
Work-in-Process	38,500	
Finished Goods	20,400	
Property, Plant and Equipment	220,000	
Accumulated Depreciation		$ 77,500
Accounts Payable		123,200
Wages Payable		2,900
Common Stock		139,000
Retained Earnings		109,800
Sales Revenue		104,000
Cost of Goods Sold	53,050	
Selling and Administrative Expenses	32,000	
Totals	$ 556,400	$ 556,400

P-M:2-35A, cont.
Requirement 4

MIGHTY STARS
Schedule of Cost of Goods Manufactured
Month Ended June 30, 2024

Beginning Work-in-Process Inventory		$ 40,000
Direct Materials Used	$ 8,850	
Direct Labor	20,600	
Manufacturing Overhead Allocated	16,480	
Total Manufacturing Costs Incurred during the month		45,930
Total Manufacturing Costs to Account For		85,930
Ending Work-in-Process Inventory		(38,500)
Cost of Goods Manufactured		**$ 47,430**

Requirement 5

MIGHTY STARS
Income Statement
Month ended June 30, 2024

Sales Revenue		$ 104,000
Cost of Goods Sold:		
Beginning Finished Goods Inventory	$ 20,400	
Cost of Goods Manufactured	47,430	
Cost of Goods Available for Sale	67,830	
Ending Finished Goods Inventory	(20,400)	
Cost of Goods Sold Before Adjustment	47,430	
Underallocated Overhead	5,620	
Cost of Goods Sold After Adjustment		53,050
Gross Profit		50,950
Selling and Administrative Expenses		32,000
Operating Income		**$ 18,950**

P-M:2-36A
Requirement 1

$$\text{Hourly rate to the employer} = \frac{\$1{,}500{,}000 \text{ per year}}{7{,}500 \text{ hours per year}} = \$200 \text{ per hour}$$

$$\text{Predetermined Overhead Allocation Rate} = \frac{\text{Total estimated overhead costs}}{\text{Total estimated quantity of the overhead allocation base}}$$

$$= \frac{\$600{,}000^*}{\$1{,}500{,}000} = 0.40 = 40\% \text{ of direct labor costs}$$

*$464,000 + $45,000 + $29,000 + $62,000 = $600,000

Requirement 2

BLUEBIRD DESIGN, INC.
Total Cost of Delightful Treats' and Melva Chocolates' Jobs
For the month of November

	Delightful Treats	Melva Chocolates
Direct Costs:		
Direct Labor		
500 hours × $200 per hour	$ 100,000	
400 hours × $200 per hour		$ 80,000
Software licensing costs	3,500	200
Travel costs	5,000	0
Total Direct Costs	108,500	80,200
Allocated Indirect Costs:		
40% × $100,000	40,000	
40% × $ 80,000		32,000
Total Costs	$ 148,500	$ 112,200

P-M:2-36A, cont.
Requirement 3

If profits are 50% of sales, then total costs are 50% of sales.
Therefore, Sales Revenue = Total Costs / 50%.

Delightful Treats: $297,000

Service Revenue	=	Total costs	/	50%
Service Revenue	=	$148,500	/	50%
Service Revenue	=	$297,000		

Melva Chocolates: $224,400

Service Revenue	=	Total costs	/	50%
Service Revenue	=	$112,200	/	50%
Service Revenue	=	$224,400		

Requirement 4
Bluebird Design, Inc. assigns costs to jobs to help the company set fees that cover all costs and contribute to profit. Assigning costs to individual clients can also help Bluebird Design, Inc. control costs.

Problems (Group B)

P-M:2-37B

Requirement 1

Sutherland Manufacturing uses a job order costing system. We know this because Sutherland's costing records show costs being accumulated for each job.

Requirement 2

SUTHERLAND MANUFACTURING
Computation of Work-in-Process Inventory, Finished Goods Inventory, and Cost of Goods Sold for October and November

Date	Work-in-Process Inventory		Finished Goods Inventory		Cost of Goods Sold	
	Job	Cost	Job	Cost	Job	Cost
October 31:	3	$ 1,000	2	$ 1,900	1	$ 1,400
	4	600				
	Total	$ 1,600	Total	$ 1,900	Total	$ 1,400
November 30:	6	$ 1,100	4	$ 2,000	2	$ 1,900
					3	2,100
					5	750
	Total	$ 1,100	Total	$ 2,000	Total	$ 4,750

Requirement 3

Date	Accounts and Explanation	Debit	Credit
Oct. 31	Finished Goods Inventory (Jobs 1 & 2)	3,300	
	Work-in-Process Inventory		3,300
Nov. 30	Finished Goods Inventory (Jobs 3, 4, & 5)	4,850	
	Work-in-Process Inventory		4,850

P-M:2-37B, cont.
Requirement 4

Date	Accounts and Explanation	Debit	Credit
Nov. 30	Accounts Receivable	2,200	
	Sales Revenue		2,200
30	Cost of Goods Sold	2,100	
	Finished Goods Inventory		2,100

Requirement 5

The gross profit for Job 3 is:

Sales Revenue	$ 2,200
Cost of Goods Sold	2,100
Gross Profit	$ 100

P-M:2-38B
Requirement 1

JOB COST RECORD

Job Number	423
Customer	Prototype Pictures
Job Description	5,200 DVDs

Direct Materials			Direct Labor			Manufacturing Overhead		
Date	**Requisition Number**	**Amount**	**Date**	**Labor Time Record Number**	**Amount**	**Date**	**Rate**	**Amount**
11/2	63	$341	11/2	655	$160	11/3	125% of DL costs*	$525
11/2	64	700						
11/3	74	126	11/3	656	260			

Cost Summary	
Direct Materials	$ 1,167
Direct Labor	420
Manufacturing Overhead	525
Total Cost	$ 2,112
Unit Cost	$0.41**

*$550,000 / $440,000 = 125%
**$2,112 / 5,200 DVDs = $0.41 per DVD (rounded)

Requirement 2

Date	Accounts and Explanation	Debit	Credit
Nov. 3	Work-in-Process Inventory	1,167	
	Raw Materials Inventory		1,167
3	Work-in-Process Inventory	420	
	Wages Payable		420
3	Work-in-Process Inventory	525	
	Manufacturing Overhead		525

P-M:2-38B, cont.
Requirement 3

Date	Accounts and Explanation	Debit	Credit
Nov. 3	Finished Goods Inventory	2,112	
	Work-in-Process Inventory		2,112
3	Accounts Receivable (5,200 DVDs × $1.70 per DVD)	8,840	
	Sales Revenue		8,840
3	Cost of Goods Sold	2,112	
	Finished Goods Inventory		2,112

P-M:2-39B
Requirement 1

$$\text{Predetermined Overhead Allocation Rate} = \frac{\text{Total estimated overhead costs}}{\text{Total estimated quantity of the overhead allocation base}}$$

$$= \frac{\$1{,}150{,}000}{\$5{,}750{,}000} = 0.20 = 20\% \text{ of direct labor costs}$$

P-M:2-39B, cont.
Requirement 2

Date	Accounts and Explanation	Debit	Credit
Aug. 31			
a.	Raw Materials Inventory	450,000	
	Accounts Payable		450,000
b.	Work-in-Process Inventory[1]	270,000	
	Raw Materials Inventory		270,000
c.	Work-in-Process Inventory[2]	189,000	
	Construction Overhead[3]	51,000	
	Wages Payable		240,000
d.	Construction Overhead	6,300	
	Accumulated Depreciation—Equipment		6,300
e.	Construction Overhead	45,000	
	Cash		40,000
	Prepaid Insurance		5,000
f.	Work-in-Process Inventory[4]	37,800	
	Construction Overhead		37,800
g.	Finished Goods Inventory[5]	236,200	
	Work-in-Process Inventory		236,200
h.	Accounts Receivable	250,000	
	Sales Revenue		250,000
	Cost of Goods Sold[6]	127,800	
	Finished Goods Inventory		127,800

[1]$52,000 + $67,000 + $63,000 + $88,000 = $270,000
[2]$47,000 + $36,000 + $54,000 + $52,000 = $189,000
[3]$240,000 – $189,000 = $51,000
[4] $189,000 × 20% = $37,800
[5] House 402: $52,000 + $47,000 + ($47,000 × 0.20) = $108,400
House 404: $63,000 + $54,000 + ($54,000 × 0.20) = $127,800
Total: $108,400 + $127,800 = $236,200
[6]From above, House 404 = $127,800

P-M:2-39B, cont.
Requirement 3

Work-in-Process Inventory			
(b) DM	270,000	236,200	(g) COGM
(c)DL	189,000		
(f) OH	37,800		
Bal.	260,600		

Finished Goods Inventory			
(g) COGM	236,200	127,800	(h) COGS
Bal.	108,400		

Requirement 4

MEADOW CONSTRUCTION, INC.
Reconciliation of Work-in-Process Inventory Subsidiary
and Control Accounts
August 31

	House #403	House #405	Total WIP Balance
Unfinished houses:			
Direct Materials	$ 67,000	$ 88,000	
Direct Labor	36,000	52,000	
Construction Overhead (20% of direct labor)	7,200	10,400	
Total cost equals Ending Work-in-Process Inventory	$ 110,200	$ 150,400	$ 260,600

Requirement 5

MEADOW CONSTRUCTION, INC.
Reconciliation of Finished Goods Inventory Subsidiary
and Control Accounts
August 31

	House #402
Completed, unsold house:	
Direct Materials	$ 52,000
Direct Labor	47,000
Construction Overhead (20% of direct labor)	9,400
Total cost equals Ending Finished Goods Inventory	$ 108,400

P-M:2-39B, cont.
Requirement 6

MEADOW CONSTRUCTION, INC. Gross Profit on Homes Sold in August	
	House #404
Sales Revenue	$ 250,000
Cost of Goods Sold	127,800
Gross Profit	$ 122,200

The gross profit must cover these types of costs: selling and administrative expenses, income tax expense, customer service, design, distribution, marketing, research and development, and other expenses.

P-M:2-40B
Requirement 1

$$\text{Predetermined Overhead Allocation Rate} = \frac{\text{Total estimated overhead costs}}{\text{Total estimated quantity of the overhead allocation base}}$$

$$= \frac{\$206{,}800^*}{24{,}500 \text{ MHrs}} = \$8.44 \text{ per MHr (rounded)}$$

*$19,000 + $41,000 + $21,000 + $42,000 + $83,800 = $206,800

Requirement 2

Manufacturing Overhead		
	27,500	271,768*
	46,000	
	41,000	
	97,850	
	82,000	
Bal.	22,582	

*32,200 MHrs × $8.44 per MHr

P-M:2-40B, cont.
Requirement 3

Date	Accounts and Explanation	Debit	Credit
Dec 31	Cost of Goods Sold	22,582	
	Manufacturing Overhead		22,582

Requirement 4
The actual manufacturing overhead rate is not known until the end of the period. Managers need to make decisions throughout the period. Accountants use predetermined overhead allocation rates to give managers product cost information when they need it—today.

P-M:2-41B
Requirement 1

Date	Accounts and Explanation	Debit	Credit
June 30			
a.	Cash	141,000	
	Accounts Receivable		141,000
b.	Selling and Administrative Expenses	22,000	
	Cash		22,000
c.	Accounts Payable	35,000	
	Cash		35,000
d.	Raw Materials Inventory ($25,500 + $4,100)	29,600	
	Accounts Payable		29,600
e.	Work-in-Process Inventory ($800 + $7,900)	8,700	
	Manufacturing Overhead	1,700	
	Raw Materials Inventory		10,400
f.	Work-in-Process Inventory ($3,800 + $18,800)	22,600	
	Manufacturing Overhead	17,400	
	Wages Payable		40,000
g.	Wages Payable ($1,800 + $37,200)	39,000	
	Cash		39,000
h.	Manufacturing Overhead	3,100	
	Accumulated Depreciation—Plant and Equipment		3,100
i.	Work-in-Process Inventory	11,300	
	Manufacturing Overhead ($22,600 × 50%)		11,300
j.	Finished Goods Inventory	45,900	
	Work-in-Process Inventory		45,900
k.	Accounts Receivable	104,000	
	Sales Revenue		104,000
	Cost of Goods Sold	45,900	
	Finished Goods Inventory		45,900
l.	Cost of Goods Sold	10,900	
	Manufacturing Overhead		10,900
	($1,700 + $17,400 + $3,100 − $11,300)		

P-M:2-41B, cont.
Requirement 2

Cash			
Bal.	25,000	22,000	(b)
(a)	141,000	35,000	(c)
		39,000	(g)
Bal.	70,000		

Accounts Receivable			
Bal.	190,000	141,000	(a)
(k)	104,000		
Bal.	153,000		

Raw Materials Inventory			
Bal.	6,300	10,400	(e)
(d)	29,600		
Bal.	25,500		

Work-in-Process Inventory			
Bal.	39,400	45,900	(j)
(e)	8,700		
(f)	22,600		
(i)	11,300		
Bal.	36,100		

Finished Goods Inventory			
Bal.	21,300	45,900	(k)
(j)	45,900		
Bal.	21,300		

Property, Plant, and Equipment			
Bal.	270,000		

Accumulated Depreciation			
		71,000	Bal.
		3,100	(h)
		74,100	Bal.

Accounts Payable			
(c)	35,000	129,000	Bal.
		29,600	(d)
		123,600	Bal.

Wages Payable			
(g)	39,000	1,800	Bal.
		40,000	(f)
		2,800	Bal.

Common Stock			
		138,000	Bal.

Retained Earnings			
		212,200	Bal.

Sales Revenue			
		104,000	(k)

Cost of Goods Sold			
(k)	45,900		
(l)	10,900		
Bal.	56,800		

Manufacturing Overhead			
(e)	1,700	11,300	(i)
(f)	17,400	10,900	(l)
(h)	3,100		
Bal.	0		

Selling and Administrative Expenses			
(b)	22,000		

P-M:2-41B, cont.
Requirement 2, cont.

Raw Materials Inventory subsidiary ledger:

Paper			
Bal.	5,000	8,700	(e)
(d)	25,500		
Bal.	21,800		

Indirect Materials			
Bal.	1,300	1,700	(e)
(d)	4,100		
Bal.	3,700		

Total balances equal balance of Raw Materials Inventory, $25,500 ($21,800 + $3,700).

Work-in-Process Inventory subsidiary ledger:

Job 120			
Bal.	39,400	45,900	(j)
(e)	800		
(f)	3,800		
(i)	1,900		
Bal.	0		

Job 121		
Bal.	0	
(e)	7,900	
(f)	18,800	
(i)	9,400	
Bal.	36,100	

Total balance equal balance of Work-in-Process Inventory, $36,100 ($0 + $36,100).

Finished Goods Inventory subsidiary ledger:

Large stars			
Bal.	9,900	45,900	(k)
(j)	45,900		
Bal.	9,900		

Small stars		
Bal.	11,400	
Bal.	11,400	

Total balances equal balance of Finished Goods Inventory, $21,300 ($9,900 + $11,400).

P-M:2-41B, cont.
Requirement 3

HERO STARS
Trial Balance
June 30, 2024

Account Title	Debit	Credit
Cash	$ 70,000	
Accounts Receivable	153,000	
Inventories:		
Raw Materials	25,500	
Work-in-Process	36,100	
Finished Goods	21,300	
Property, Plant, and Equipment	270,000	
Accumulated Depreciation		$ 74,100
Accounts Payable		123,600
Wages Payable		2,800
Common Stock		138,000
Retained Earnings		212,200
Sales Revenue		104,000
Cost of Goods Sold	56,800	
Selling and Administrative Expenses	22,000	
Totals	$ 654,700	$ 654,700

P-M:2-41B, cont.
Requirement 4

HERO STARS Schedule of Cost of Goods Manufactured Month Ended June 30, 2024		
Beginning Work-in-Process Inventory		$ 39,400
Direct Materials Used	$ 8,700	
Direct Labor	22,600	
Manufacturing Overhead Allocated	11,300	
Total Manufacturing Costs Incurred during the Month		42,600
Total Manufacturing Costs to Account For		82,000
Ending Work-in-Process Inventory		(36,100)
Cost of Goods Manufactured		**$ 45,900**

Requirement 5

HERO STARS Income Statement Month Ended June 30, 2024		
Sales Revenue		$ 104,000
Cost of Goods Sold:		
Beginning Finished Goods Inventory	$ 21,300	
Cost of Goods Manufactured	45,900	
Cost of Goods Available for Sale	67,200	
Ending Finished Goods Inventory	(21,300)	
Cost of Goods Sold Before Adjustment	45,900	
Underallocated Overhead	10,900	
Cost of Goods Sold After Adjustment		56,800
Gross Profit		47,200
Selling and Administrative Expense		22,000
Operating Income		**$ 25,200**

P-M:2-42B
Requirement 1

$$\text{Hourly rate to the employer} = \frac{\$2{,}000{,}000 \text{ per year}}{8{,}000 \text{ hours per year}} = \$250 \text{ per hour}$$

$$\text{Predetermined Overhead Allocation Rate} = \frac{\text{Total estimated overhead costs}}{\text{Total estimated quantity of the overhead allocation base}}$$

$$= \frac{\$1{,}000{,}000^*}{\$2{,}000{,}000} = 0.50 = 50\% \text{ of direct labor costs}$$

*$866,000 + $49,000 + $24,000 + $61,000 = $1,000,000

Requirement 2

SKYLARK DESIGN, INC.
Total Cost of Tasty Co-ops' and Maynard Chocolates' Jobs
For the Month of November

	Tasty Co-op	Maynard Chocolates
Direct Costs:		
Direct labor		
800 hours × $250 per hour	$ 200,000	
300 hours × $250 per hour		$ 75,000
Software licensing costs	1,500	500
Travel costs	11,000	0
Total Direct Costs	$ 212,500	$ 75,500
Allocated Indirect Costs:		
50% × $200,000	100,000	
50% × $ 75,000		37,500
Total Costs	$ 312,500	$ 113,000

P-M:2-42B, cont.
Requirement 3

If profits are 50% of sales, then total costs are 50% of sales. Therefore, Sales Revenue = Total Costs / 50%.

Tasty Co-op: $625,000

Service Revenue	=	Total costs	/	50%
Service Revenue	=	$312,500	/	50%
Service Revenue	=	$625,000		

Maynard Chocolates: $226,000

Service Revenue	=	Total costs	/	50%
Service Revenue	=	$113,000	/	50%
Service Revenue	=	$ 226,000		

Requirement 4
Skylark Design, Inc. assigns costs to jobs to help the company set fees that cover all costs and contribute to profit. Assigning costs to individual clients also can help Skylark Design, Inc. control costs.

Using Excel

The student templates for *Using Excel* are available online in MyLab Accounting in the Multimedia Library or at http://www.pearsonhighered.com/Horngren. The solution to *Using Excel* is available online in MyLab Accounting in the Instructor Resource Center or at http://www.pearsonhighered.com/Horngren.

Continuing Problem

P-M:2-43
Requirement 1

$$\text{Predetermined Overhead Allocation Rate} = \frac{\text{Total estimated overhead costs}}{\text{Total estimated quantity of the overhead allocation base}}$$

$$= \frac{\$290{,}000}{\$1{,}160{,}000} = 0.25 = 25\% \text{ of direct labor costs}$$

Requirement 2

	Job 721
Direct Materials	$ 23,400
Direct Labor ($25 per hour × 780 hours)	19,500
Manufacturing Overhead (25% of direct labor)	4,875
Total Cost	$ 47,775

	Job 722
Direct Materials	$ 2,500
Direct Labor ($25 per hour × 60 hours)	1,500
Manufacturing Overhead (25% of direct labor)	375
Total Cost	$ 4,375

Requirement 3

Piedmont Computer Company assigns costs to jobs to help the company set sales prices that cover all costs and contribute to profit. Assigning costs to individual jobs also can help Piedmont control costs.

Critical Thinking

Tying It All Together Case M:2-1
Requirement 1

Direct materials would most likely include items such as steel and cement.

Requirement 2

Direct costs = Direct materials + Direct labor = $55m + $30m = $85m
Indirect costs = 50% of Direct labor costs = 0.50 × $30m = $15m
Total Costs = Direct costs + Indirect costs = $85m + $15m = $100m

Requirement 3

Markup = 20% of total costs = 0.20 × $100m = $20m
Price = Cost + Markup = $100m + $20m = $120m

Requirement 4

Granite Construction must charge customers enough to cover all costs, not just the direct costs, in order to remain profitable. For example, projects such as this require the use of expensive machinery. The maintenance and depreciation costs could be substantial and must be considered when bidding for projects.

Decision Case M:2-1
Requirement 1

The cost analysis for the second order is correct. The problem tells us that overhead is allocated "based on direct labor cost," and we can see from the first order that the allocation rate is 50% of direct labor cost. Some students may point out that labor costs have gone up during the year, but overhead costs presumably have not. This situation could result in an overallocation of overhead. However, overallocated or underallocated amounts are adjusted at the end of the year.

Furthermore, all amounts, including both overhead costs and labor costs, were estimated at the beginning of the year to calculate the predetermined overhead allocation rate. Estimates are, by their nature, only "educated guesses." They may very well include "contingency amounts" or "cushions" for unknown factors, and it is expected that actual costs will differ from the amounts estimated. (Alternatively, it may be pointed out that companies are free to revise their allocation rates at any time if they feel it is warranted.)

Requirement 2

Hiebert should account for each order as a separate job. The orders were received at different times, for different amounts, and the costs per box of the orders are not the same.

Requirement 3

Student responses will vary. Answers should make it clear that Hiebert is free to price his products any way he sees fit. He may choose to keep the price per box the same as it was before, and sacrifice a portion of the gross profit in order to keep his sales volume up and maintain customer loyalty. Or, he could "pass along" the cost increases by raising his prices, risking a reduction in sales. Or, he could pick a price strategy somewhere in between these two points. Hiebert will have to consider a number of factors such as supply and demand, current market conditions, competition, and customer relations before deciding on whether to change the price of the product.

Fraud Case M:2-1
Requirement 1

The company is using direct labor hours as a cost driver to allocate overhead. By showing more hours spent on military jobs, more overhead would be allocated to these jobs over civilian contracts.

Requirement 2

By shifting costs from other contracts to the government contracts, the company is overcharging the government and violating the contract agreement.

Requirement 3

Lower costs translate into higher profits. Additionally, the company can place bids lower than its competitors because they have lower costs, thereby increasing their chances of being awarded contracts.