Solutions for Managerial Accounting 15th Edition by Warren

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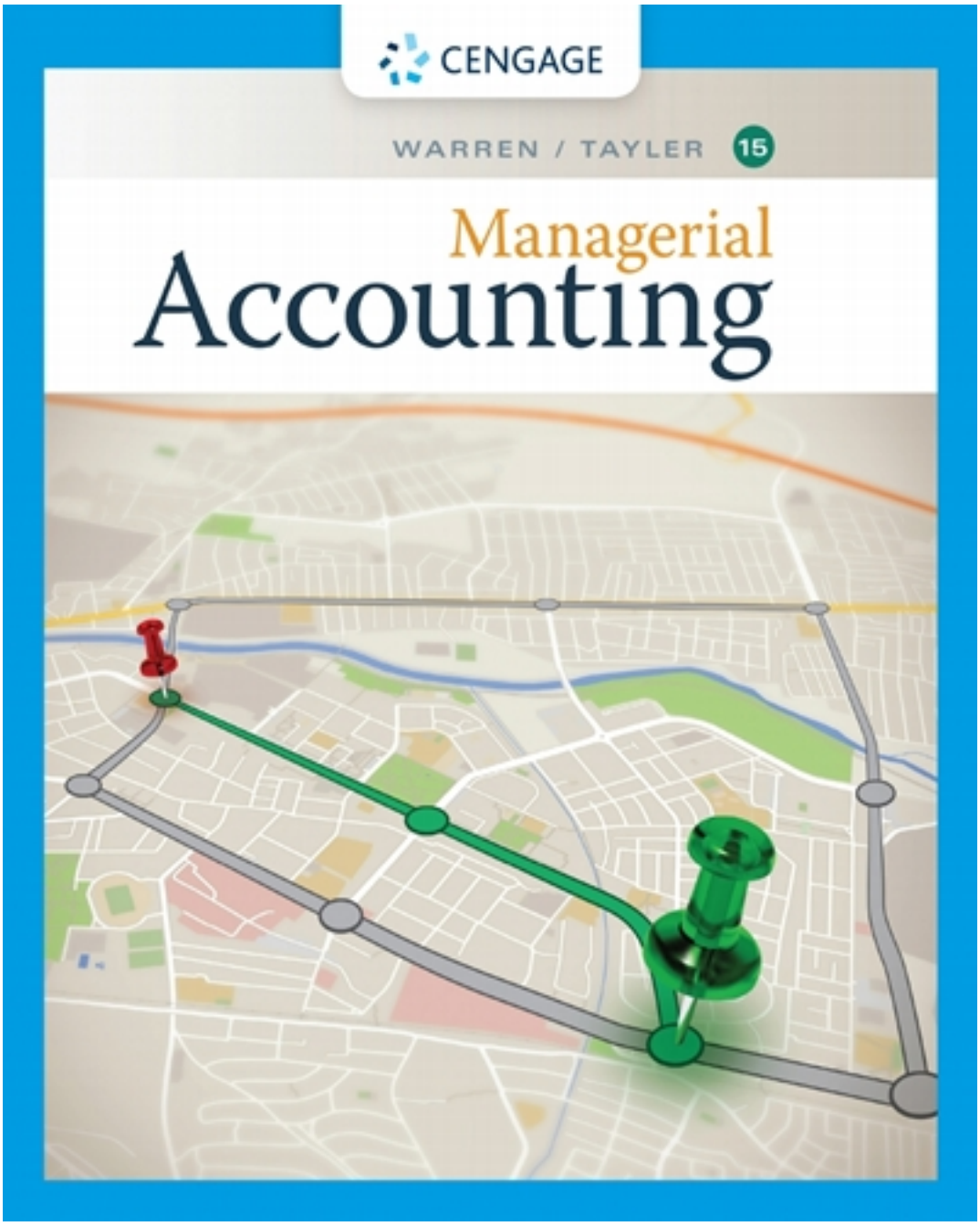

Solutions

CHAPTER 15 (FIN MAN); CHAPTER 1 (MAN)
INTRODUCTION TO MANAGERIAL ACCOUNTING

DISCUSSION QUESTIONS

1. Financial accounting and managerial accounting are different in several ways. Financial accounting information is reported in statements that are useful to persons or groups outside of a company. These statements objectively report the results of operations for fixed periods of time and the financial condition of the business under generally accepted accounting principles. Managerial accounting information uses both subjective and objective information to meet the specific needs of management. This non-GAAP information can be reported periodically or as needed by management and can be reported for the entire entity or for segments of the organization. This information includes (i) historical data, which provide objective measures of past operations, and (ii) estimated data, which provide subjective estimates about future decisions.

2. **a.** Vertical units are structured as separate businesses within a company and normally develop and sell products directly to customers. Horizontal units are not responsible for developing and selling products, but provide services to other horizontal and vertical units within the company.
b. The accounting and legal departments are horizontal units within a company.
c. A consumer products division would be considered a vertical unit within a company.

3. Direct materials cost

4. Prime costs are the combination of direct materials and direct labor costs, while conversion costs are the combination of direct labor costs and factory overhead costs.

5. Product costs are composed of three elements of manufacturing costs: direct materials cost, direct labor cost, and factory overhead cost. These costs are treated as assets until the product is sold. Period costs consist of selling and administrative expenses that are used in generating revenue during the current period. They are recognized as expenses on the current period's income statement.

6. The three inventory accounts for a manufacturing business are as follows:
a. Finished goods inventory consists of completed (or finished) products that have not been sold.
b. Work in process inventory consists of the direct materials, direct labor, and factory overhead costs for products that have entered the manufacturing process, but are not yet completed.
c. Materials inventory consists of the costs of the direct and indirect materials that have not entered the manufacturing process.

7. Materials, work-in-process, and finished goods

8. The cost of finished goods and the cost of work in process includes the following:
a. Direct materials—the costs of materials that enter directly into the finished product.
b. Direct labor—the wages of factory workers who convert materials into a finished product.
c. Factory overhead—the costs, other than direct materials and direct labor, that are incurred in the manufacturing process.

9. The manufacturing costs incurred during a period include direct materials used in production plus the direct labor and factory overhead costs incurred during the period. The cost of goods manufactured for a period is computed by adjusting the manufacturing costs incurred during the period for the effects of beginning and ending work in process. Beginning work in process inventory is added and ending work in process is subtracted from the manufacturing costs incurred during a period to arrive at the cost of goods manufactured for the period.

10. A retail business purchases merchandise (products) in a finished state for resale to customers. The cost of product sold is called *cost of goods sold.* A manufacturer makes the product it sells using direct materials, direct labor, and factory overhead, which make up the cost of goods manufactured included in the "Cost of goods sold" section of the income statement.

BASIC EXERCISES

BE 15–1 (FIN MAN); BE 1–1 (MAN)

Planning (a)
Directing (c)
Controlling (b)

BE 15–2 (FIN MAN); BE 1–2 (MAN)

a. DM (or FO if the cost is immaterially small)
b. DL
c. FO
d. DM

BE 15–3 (FIN MAN); BE 1–3 (MAN)

a. P
b. B
c. C (or P if significant)
d. C

BE 15–4 (FIN MAN); BE 1–4 (MAN)

a. Period cost
b. Product cost
c. Product cost
d. Period cost

BE 15–5 (FIN MAN); BE 1–5 (MAN)

a.	**Work in process inventory, April 1**		**$ 72,300**
	Cost of direct materials used in production	**$280,000**	
	Direct labor	**324,000**	
	Factory overhead	**188,900**	
	Total manufacturing costs incurred in April		**792,900**
	Total manufacturing costs		**$865,200**
	Work in process inventory, April 30		**(76,600)**
	Cost of goods manufactured		**$788,600**
b.	**Finished goods inventory, April 1**		**$ 39,600**
	Cost of goods manufactured		**788,600**
	Cost of finished goods available for sale		**$828,200**
	Finished goods inventory, April 30		**(41,200)**
	Cost of goods sold		**$787,000**

BE 15–6 (FIN MAN); BE 1–6 (MAN)

a.

Number of Guests	Nights per Visit	Guest Nights
4,400	1	4,400
1,800	2	3,600
750	3	2,250
600	4	2,400
20	5	100
		12,750

b. 15,000 available room nights (500 rooms × 30 nights in June)

c. $$\text{Occupancy Rate} = \frac{\text{Guest Nights}}{\text{Available Room Nights}}$$

$$\text{Occupancy Rate} = \frac{12{,}750}{15{,}000} = 85\%$$

d. The utilization (occupancy) rate has improved from 82% in the prior year to 85% in the current year.

EXERCISES

Ex. 15–1 (FIN MAN); Ex. 1–1 (MAN)

a. Direct materials cost
b. Direct materials cost
c. Factory overhead cost
d. Direct materials cost
e. Factory overhead cost
f. Factory overhead cost
g. Direct materials cost
h. Direct materials cost
i. Direct labor cost

Ex. 15–2 (FIN MAN); Ex. 1–2 (MAN)

a. Factory overhead cost
b. Factory overhead cost
c. Factory overhead cost
d. Direct materials cost
e. Direct materials cost
f. Factory overhead cost
g. Direct materials cost
h. Factory overhead cost
i. Direct materials cost
j. Direct labor cost

Ex. 15–3 (FIN MAN); Ex. 1–3 (MAN)

b, e, g, h

Ex. 15–4 (FIN MAN); Ex. 1–4 (MAN)

a. Period cost
b. Period cost
c. Period cost
d. Product cost
e. Product cost
f. Product cost
g. Product cost
h. Product cost
i. Product cost
j. Product cost
k. Period cost
l. Period cost
m. Period cost
n. Product cost
o. Period cost
p. Period cost
q. Product cost

Ex. 15–5 (FIN MAN); Ex. 1–5 (MAN)

a. cost object
b. period
c. conversion
d. improve
e. cost
f. work in process inventory
g. decreases

Ex. 15–6 (FIN MAN); Ex. 1–6 (MAN)

a. electricity used to run assembly line
b. prime
c. strategic
d. materials inventory
e. improving
f. indirect
g. period

Ex. 15–7 (FIN MAN); Ex. 1–7 (MAN)

a. indirect
b. direct
c. indirect
d. indirect
e. direct
f. indirect
g. indirect
h. indirect
i. indirect
j. indirect
k. indirect
l. direct

Ex. 15–8 (FIN MAN); Ex. 1–8 (MAN)

a. The errors in the manufacturing cost report are as follows:

1. The maintenance salaries of $84,400 and indirect materials of $56,200 should be included as factory overhead.

2. The factory overhead incorrectly includes the following items: sales salaries of $348,750, promotional expenses of $315,000, corporate office insurance and property taxes of $219,400, and corporate office depreciation of $90,000. These items should not be included as factory overhead.

b. The corrected report is as follows:

Marching Ants Inc. Manufacturing Costs For the Quarter Ended June 30		
Cost of direct materials used in production		$ 551,300
Direct labor		478,100
Factory overhead:		
Maintenance salaries	$ 84,400	
Indirect materials	56,200	
Supervisor salaries	517,500	
Heat, light, and power	140,650	
Insurance and property taxes—plant	151,900	
Depreciation—plant and equipment	123,750	
Total factory overhead		1,074,400
Total		$2,103,800

Ex. 15–9 (FIN MAN); Ex. 1–9 (MAN)

a.

Sorensen Manufacturing Company Income Statement For the Month Ended January 31		
Revenues		$1,200,000
Cost of goods sold		(675,000)
Gross profit		$ 525,000
Operating expenses:		
Selling expenses	$215,000	
Administrative expenses	125,000	
Total operating expenses		(340,000)
Net income		$ 185,000

b. Inventory balances on January 31:

Materials ($250,000 – $180,000)	$70,000
Work in Process ($180,000 + $450,000 + $180,000 – $760,000)	$50,000
Finished Goods ($760,000 – $675,000)	$85,000

Ex. 15–10 (FIN MAN); Ex. 1–10 (MAN)

Diesel Additives Company Balance Sheet August 31		
Current assets:		
Cash		$167,500
Accounts receivable		348,200
Inventories:		
Materials	$26,800	
Work in process	61,100	
Finished goods	89,400	
Total inventories		177,300
Supplies		13,800
Prepaid insurance		9,000
Total current assets		$715,800

Ex. 15–11 (FIN MAN); Ex. 1–11 (MAN)

Materials inventory, June 1	$ 238,500
Materials purchased during June	845,700
Cost of materials available for use	$1,084,200
Materials inventory, June 30	(190,400)
Cost of direct materials used in production	$ 893,800

Ex. 15–12 (FIN MAN); Ex. 1–12 (MAN)

a. $352,410 ($19,660 + $332,750)
b. $328,910 ($352,410 – $23,500)
c. $474,120 ($515,770 – $41,650)
d. $461,770 ($515,770 – $54,000)
e. $165,000 ($1,240,000 – $1,075,000)
f. $172,000 ($1,240,000 – $1,068,000)

Ex. 15–13 (FIN MAN); Ex. 1–13 (MAN)

Work in process inventory, October 1		$ 455,300
Manufacturing costs incurred during October:		
Cost of direct materials used in production	$1,323,600	
Direct labor	1,680,000	
Factory overhead	3,544,200	
Total manufacturing costs incurred		6,547,800
Total manufacturing costs		$7,003,100
Work in process inventory, October 31		(378,100)
Cost of goods manufactured		$6,625,000

Ex. 15–14 (FIN MAN); Ex. 1–14 (MAN)

a. $942,500 ($116,600 + $825,900)
b. $812,500 ($942,500 – $130,000)
c. $501,120 ($540,000 – $38,880)
d. $470,000 ($540,000 – $70,000)
e. $920,000 ($1,100,000 – $180,000)
f. $155,000 ($1,100,000 – $945,000)

Ex. 15–15 (FIN MAN); Ex. 1–15 (MAN)

a.

Johnstone Manufacturing Company Statement of Cost of Goods Manufactured For the Month Ended March 31			
Work in process inventory, March 1			$ 435,900
Direct materials:			
Materials inventory, March 1	$ 210,000		
Purchases	2,666,200		
Cost of materials available for use	$2,876,200		
Materials inventory, March 31	(193,100)		
Cost of direct materials used in			
production		$2,683,100	
Direct labor		3,500,000	
Factory overhead:			
Indirect labor	$ 320,000		
Machinery depreciation	210,000		
Heat, light, and power	175,000		
Supplies	34,900		
Property taxes	30,000		
Miscellaneous costs	45,700		
Total factory overhead		815,600	
Total manufacturing costs incurred in March			6,998,700
Total manufacturing costs			$7,434,600
Work in process inventory, March 31			(510,400)
Cost of goods manufactured			$6,924,200

b.

Finished goods inventory, March 1	$ 586,200
Cost of goods manufactured	6,924,200
Cost of finished goods available for sale	$7,510,400
Finished goods inventory, March 31	(615,900)
Cost of goods sold	$6,894,500

Ex. 15–16 (FIN MAN); Ex. 1–16 (MAN)

a.	Finished goods inventory, January 1		$ 880,000
	Cost of goods manufactured		4,490,000
	Cost of finished goods available for sale		$5,370,000
	Finished goods inventory, January 31		(775,000)
	Cost of goods sold		$4,595,000
b.	Sales		$ 6,600,000
	Cost of goods sold		(4,595,000)
	Gross profit		$ 2,005,000
c.	Gross profit		$2,005,000
	Operating expenses:		
	Selling expenses	$530,000	
	Administrative expenses	340,000	
	Total operating expenses		(870,000)
	Net income		$1,135,000

Ex. 15–17 (FIN MAN); Ex. 1–17 (MAN)

a.	Sales		$ 792,000
	Less gross profit		(462,000)
	Cost of goods sold		$ 330,000
b.	Cost of goods manufactured		$ 396,000
	Less cost of goods sold		(330,000)
	Finished goods inventory		$ 66,000
c.	Purchased materials		$244,200
	Less materials inventory		(33,000)
	Direct materials cost		$211,200
d.	Total manufacturing costs		$ 455,400
	Less: Direct materials	$211,200	
	Factory overhead costs (indirect labor and factory depreciation)*	198,000	(409,200)
	Direct labor cost		$ 46,200

* $171,600 + $26,400

e.	Total manufacturing costs		$ 455,400
	Less cost of goods manufactured		(396,000)
	Work in process inventory		$ 59,400

PROBLEMS

Prob. 15–1A (FIN MAN); Prob. 1–1A (MAN)

Cost	Product Costs			Period Costs	
	Direct Materials Cost	Direct Labor Cost	Factory Overhead Cost	Selling Expense	Administrative Expense
a.					X
b.				X	
c.	X				
d.	X				
e.				X	
f.			X		
g.					X
h.			X		
i.			X		
j.		X			
k.	X				
l.	X				
m.	X				
n.			X		
o.	X				
p.			X		
q.			X		
r.	X				
s.			X		
t.				X	
u.			X		
v.					X
w.			X		
x.				X	
y.	X				
z.			X		

Prob. 15–2A (FIN MAN); Prob. 1–2A (MAN)

Cost	Product Costs			Period Costs	
	Direct Materials Cost	Direct Labor Cost	Factory Overhead Cost	Selling Expense	Administrative Expense
a.			X		
b.	X				
c.	X				
d.			X		
e.				X	
f.				X	
g.			X		
h.					X
i.			X		
j.			X		
k.			X		
l.					X
m.					X
n.			X		
o.			X		
p.					X
q.			X		
r.			X		
s.			X		
t.			X		
u.					X
v.				X	
w.		X			
x.			X		

Prob. 15–3A (FIN MAN); Prob. 1–3A (MAN)

1. **The most logical definition for the final cost object would be the patient. The reason is that the cost can be accumulated at the patient level for billing and insurance reimbursement purposes.**

2.

Cost	Direct	Indirect
a.		X
b.	X	
c.	X	
d.		X
e.		X
f.	X	
g.		X
h.		X
i.	X	
j.		X
k.		X
l.	X	
m.		X
n.	X	
o.		X
p.	X	
q.		X
r.		X
s.		X
t.		X
u.		X

Prob. 15–4A (FIN MAN); Prob. 1–4A (MAN)

1. Rainier Company

a. $111,500 ($950,000 + $100,000 – $938,500)
b. $5,598,500 ($938,500 + $2,860,000 + $1,800,000)
c. $5,616,500 ($5,598,500 + $400,000 – $382,000)
d. $5,635,000 ($615,000 + $5,616,500 – $596,500)
e. $3,585,000 ($9,220,000 – $5,635,000)
f. $2,585,000 ($3,585,000 – $1,000,000)

Yakima Company

a. $708,200 ($48,200 + $710,000 – $50,000)
b. $1,330,000 ($2,484,200 – $708,200 – $446,000)
c. $169,100 ($2,660,600 – $2,491,500)
d. $211,500 ($2,491,500 + $190,000 – $2,470,000)
e. $2,080,000 ($4,550,000 – $2,470,000)
f. $580,000 ($2,080,000 – $1,500,000)

2.

Yakima Company
Statement of Cost of Goods Manufactured
For the Month Ended May 31

Work in process inventory, May 1			$ 176,400
Direct materials:			
Materials inventory, May 1	$ 48,200		
Purchases	710,000		
Cost of materials available for use	$758,200		
Materials inventory, May 31	(50,000)		
Cost of direct materials used		$ 708,200	
Direct labor		1,330,000	
Factory overhead		446,000	
Total manufacturing costs incurred in May			2,484,200
Total manufacturing costs			$2,660,600
Work in process inventory, May 31			(169,100)
Cost of goods manufactured			$2,491,500

Prob. 15–4A (FIN MAN); Prob. 1–4A (MAN) (Concluded)

3.

Yakima Company Income Statement For the Month Ended May 31		
Sales		$ 4,550,000
Cost of goods sold:		
Finished goods inventory, May 1	$ 190,000	
Cost of goods manufactured	2,491,500	
Cost of finished goods available for sale	$2,681,500	
Finished goods inventory, May 31	(211,500)	
Cost of goods sold		(2,470,000)
Gross profit		$ 2,080,000
Operating expenses		(580,000)
Net income		$ 1,500,000

Prob. 15–5A (FIN MAN); Prob. 1–5A (MAN)

1.

Robstown Corporation Statement of Cost of Goods Manufactured For the Year Ended December 31, 20Y8			
Work in process inventory, January 1, 20Y8			$ 63,900
Direct materials:			
Materials inventory, January 1, 20Y8	$ 44,250		
Purchases	556,600		
Cost of materials available for use	$600,850		
Materials inventory, December 31, 20Y8	(31,700)		
Cost of direct materials used in production		$ 569,150	
Direct labor		1,100,000	
Factory overhead:			
Indirect labor	$115,000		
Depreciation expense—factory equipment	80,000		
Heat, light, and power—factory	53,300		
Property taxes—factory	40,000		
Rent expense—factory	27,000		
Supplies—factory	9,500		
Miscellaneous costs—factory	11,400		
Total factory overhead		336,200	
Total manufacturing costs incurred in 20Y8			2,005,350
Total manufacturing costs			$2,069,250
Work in process inventory, December 31, 20Y8			(80,000)
Cost of goods manufactured			$1,989,250

Prob. 15–5A (FIN MAN); Prob. 1–5A (MAN) (Concluded)

2.

Robstown Corporation Income Statement For the Year Ended December 31, 20Y8			
Sales			$ 3,850,000
Cost of goods sold:			
Finished goods inventory, January 1, 20Y8		$ 101,200	
Cost of goods manufactured		1,989,250	
Cost of finished goods available for sale		$2,090,450	
Finished goods inventory,			
December 31, 20Y8		(99,800)	
Cost of goods sold			(1,990,650)
Gross profit			$ 1,859,350
Operating expenses:			
Administrative expenses:			
Office salaries expense	$318,000		
Depreciation expense—office			
equipment	30,000		
Property taxes—office building	25,000	$ 373,000	
Selling expenses:			
Advertising expense	$400,000		
Sales salaries expense	200,000	600,000	
Total operating expenses			(973,000)
Net income			$ 886,350

Prob. 15–1B (FIN MAN); Prob. 1–1B (MAN)

Cost	Product Costs			Period Costs	
	Direct Materials Cost	Direct Labor Cost	Factory Overhead Cost	Selling Expense	Administrative Expense
a.					X
b.			X		
c.				X	
d.				X	
e.	X				
f.			X		
g.			X		
h.			X*		
i.			X		
j.	X				
k.		X			
l.			X		
m.			X		
n.			X		
o.		X			
p.	X				
q.			X		
r.			X		
s.			X		
t.			X		
u.				X	
v.	X				
w.	X				
x.			X		
y.					X
z.	X				

* Item h might also be classified as direct material cost if the cost is significant because it can be directly traced to the end product.

Prob. 15–2B (FIN MAN); Prob. 1–2B (MAN)

Cost	Product Costs			Period Costs	
	Direct Materials Cost	Direct Labor Cost	Factory Overhead Cost	Selling Expense	Administrative Expense
a.				X	
b.					X
c.	X				
d.			X		
e.				X	
f.			X		
g.			X		
h.		X*			
i.			X		
j.	X				
k.			X		
l.	X				
m.			X		
n.	X				
o.					X
p.			X		
q.			X		
r.				X	
s.	X				
t.				X	
u.	X				
v.		X			
w.					X
x.				X	

* Health insurance premiums are employment benefits for direct labor and are included as part of the direct labor cost.

Prob. 15–3B (FIN MAN); Prob. 1–3B (MAN)

1. **The most logical definition for the final cost object would be a hotel guest. Guests consume services such as a meal, a night's stay in a hotel room, room service, a telephone call, etc.**

2.

Cost	Direct	Indirect
a.		X
b.		X
c.		X
d.	X	
e.	X	
f.	X	
g.		X
h.		X
i.	X	
j.		X
k.	X	
l.		X
m.		X
n.	X	
o.		X
p.		X
q.	X	
r.		X
s.	X	
t.		X
u.		X
v.	X	
w.		X

Prob. 15–4B (FIN MAN); Prob. 1–4B (MAN)

1. On Company

a. $30,800 ($282,800 + $65,800 – $317,800)
b. $854,000 ($317,800 + $387,800 + $148,400)
c. $800,800 ($854,000 + $119,000 – $172,200)
d. $827,400 ($224,000 + $800,800 – $197,400)
e. $299,600 ($1,127,000 – $827,400)
f. $182,000 ($299,600 – $117,600)

Off Company

a. $581,560 ($685,720* + $91,140 – $195,300)
b. $685,720 ($1,519,000 – $256,060 – $577,220)
c. $195,300 ($1,727,320 – $1,532,020)
d. $256,060 ($1,532,020 + $269,080 – $1,545,040)
e. $399,280 ($1,944,320 – $1,545,040)
f. $234,360 ($399,280 – $164,920)

*** *Note:* The student must calculate part (b) prior to calculating part (a) because the solution to part (b) is needed as an input to part (a).**

2.

On Company Statement of Cost of Goods Manufactured For the Month Ended December 31			
Work in process inventory, December 1			$ 119,000
Direct materials:			
Materials inventory, December 1	$ 65,800		
Purchases	282,800		
Cost of materials available for use	$348,600		
Materials inventory, December 31	(30,800)		
Cost of direct materials used in production		$317,800	
Direct labor		387,800	
Factory overhead		148,400	
Total manufacturing costs incurred in December			854,000
Total manufacturing costs			$ 973,000
Work in process inventory, December 31			(172,200)
Cost of goods manufactured			$ 800,800

Prob. 15–4B (FIN MAN); Prob. 1–4B (MAN) (Concluded)

3.

On Company Income Statement For the Month Ended December 31		
Sales		$1,127,000
Cost of goods sold:		
Finished goods inventory, December 1	$ 224,000	
Cost of goods manufactured	800,800	
Cost of finished goods available for sale	$1,024,800	
Finished goods inventory, December 31	(197,400)	
Cost of goods sold		(827,400)
Gross profit		$ 299,600
Operating expenses		(117,600)
Net income		$ 182,000

Prob. 15–5B (FIN MAN); Prob. 1–5B (MAN)

1.

Shanika Company
Statement of Cost of Goods Manufactured
For the Year Ended December 31, 20Y6

Work in process inventory, January 1, 20Y6			$109,200
Direct materials:			
Materials inventory, January 1, 20Y6	$ 77,350		
Purchases	123,500		
Cost of materials available for use	$200,850		
Materials inventory, December 31, 20Y6	(95,550)		
Cost of direct materials used in production		$105,300	
Direct labor		186,550	
Factory overhead:			
Indirect labor	$ 23,660		
Depreciation expense—factory equipment	14,560		
Heat, light, and power—factory	5,850		
Property taxes—factory	4,095		
Rent expense—factory	6,825		
Supplies—factory	3,250		
Miscellaneous costs—factory	4,420		
Total factory overhead		62,660	
Total manufacturing costs incurred in 20Y6			354,510
Total manufacturing costs			$463,710
Work in process inventory, December 31, 20Y6			(96,200)
Cost of goods manufactured			$367,510

Prob. 15–5B (FIN MAN); Prob. 1–5B (MAN) (Concluded)

2.

Shanika Company Income Statement For the Year Ended December 31, 20Y6			
Sales			$ 864,500
Cost of goods sold:			
Finished goods inventory, January 1, 20Y6		$ 113,750	
Cost of goods manufactured		367,510	
Cost of finished goods available for sale		$ 481,260	
Finished goods inventory,			
December 31, 20Y6		(100,100)	
Cost of goods sold			(381,160)
Gross profit			$ 483,340
Operating expenses:			
Administrative expenses:			
Office salaries expense	$ 77,350		
Depreciation expense—office equipment	22,750		
Property taxes—headquarters building	13,650	$ 113,750	
Selling expenses:			
Advertising expense	$ 68,250		
Sales salaries expense	136,500	204,750	
Total operating expenses			(318,500)
Net income			$ 164,840

MAKE A DECISION

MAD 15–1 (FIN MAN); MAD 1–1 (MAN)

a. Comfort Plus:

Number of Guests		Nights per Visit		Guest Nights
3,680	×	1	=	3,680
1,100	×	2	=	2,200
500	×	3	=	1,500
Total guest nights				7,380

Connors:

Number of Guests		Nights per Visit		Guest Nights
4,390	×	1	=	4,390
700	×	2	=	1,400
800	×	3	=	2,400
Total guest nights				8,190

b. Comfort Plus: 300 rooms × 30 days = 9,000 available room nights for April
Connors: 350 rooms × 30 days = 10,500 available room nights for April

c. $$\text{Occupancy Rate} = \frac{\text{Guest Nights}}{\text{Available Room Nights}}$$

$$\text{Comfort Plus: } \frac{7{,}380}{9{,}000} = 82\%$$

$$\text{Connors: } \frac{8{,}190}{10{,}500} = 78\%$$

d. Comfort Plus has the better occupancy rate at 82% of capacity, compared to Connors' occupancy rate of 78%.

MAD 15–2 (FIN MAN); MAD 1–2 (MAN)

a. The occupancy change is favorable for Hilton Hotels. The company improved occupancy from 72.2% to 74.6%, or a 2.4 percentage point increase over the year.

b. The occupancy change is favorable for Marriott International. The company improved occupancy from 71.3% to 73.3%, or a 2.0 percentage point increase over the year.

c. Hilton Hotels has a slightly better occupancy rate than Marriott International for the two years provided. This can be seen both by the occupancy percentage comparisons for each year (74.6% vs. 73.3% in Year 2 and 72.2% vs. 71.3% in Year 1) and by the slightly larger increase in occupancy for the year (2.4 percentage points for Hilton vs. 2.0 percentage points for Marriott).

MAD 15–2 (FIN MAN); MAD 1–2 (MAN) (Concluded)

d. An important question beyond occupancy is the price at which the rooms are sold. Price will influence occupancy. For example, it is possible to increase occupancy by reducing price. However, a reduced price may reduce revenue by more than the revenue increase achieved by increased occupancy. Thus, hotels also need to monitor the average daily price for which room nights are sold.

Note: **In this case, Hilton Hotels had an average room price of $141.52 in Year 2, while Marriott had an average room price of $150.23 in Year 2. Thus, while Marriott had a lower occupancy rate, Marriott made more revenue per room night than did Hilton. Thus, Marriott's overall performance appears more favorable than what could be determined by just the occupancy data.**

MAD 15–3 (FIN MAN); MAD 1–3 (MAN)

a.

	Number of Guests		Average Length of Visit (in Nights)		Guest Nights (Number of Guests × Average Length of Visit)
Sunrise Suites	183,600	×	1.5	=	275,400
Nationwide Inns	228,000	×	1.2	=	273,600

b.

	Number of Hotels		Average Number of of Rooms per Hotel		Days in June		Room Nights for June
Sunrise Suites	120	×	90	×	30	=	324,000
Nationwide Inns	150	×	76	×	30	=	342,000

c. $$\text{Occupancy Rate} = \frac{\text{Guest Nights}}{\text{Available Room Nights}}$$

$$\text{Sunrise Suites: } \frac{275{,}400}{324{,}000} = 85\%$$

$$\text{Nationwide Inns: } \frac{273{,}600}{342{,}000} = 80\%$$

d. Sunrise Suites had the better occupancy rate during June, with 85% compared to Nationwide Inns' occupancy rate of 80%. Additional analyses should evaluate the average price per room, since price can influence the occupancy rate and there can be a trade-off between average room price and occupancy.

MAD 15–4 (FIN MAN); MAD 1–4 (MAN)

a.

	April	May	June
Admitted patients	1,440	1,860	2,250
Average length of stay per patient	× 4.0	× 3.5	× 3.0
In-patient days	5,760	6,510	6,750

b. Available beds:

	Private	Semi-Private	Total
Number of rooms	100	100	
Beds per room	× 1	× 2	
Total bed capacity	100	200	300

Available bed days:

	April	May	June
Bed capacity	300	300	300
Days per month	× 30	× 31	× 30
Available bed days	9,000	9,300	9,000

c. Occupancy rate:

	April	May	June
In-patient days [from (a)]	5,760	6,510	6,750
Available bed days [from (b)]	÷ 9,000	÷ 9,300	÷ 9,000
Occupancy rate	64%	70%	75%

d. The occupancy rate increased from April to May and again from May to June. This suggests the hospital bed capacity is being utilized more efficiently over time. A closer examination of the data reveals that the average length of stay is declining, while the number of admissions is increasing. The average length of stay may be declining because of greater efficiency in delivering health care, assuming no change in treatment mix being provided over the three months. This potential improvement provides greater capacity to accept new patients, as can be seen from the three-month data. Thus, the reduced length of stay and greater occupancy are both contributing to the hospital's ability to serve more patients per month.

MAD 15–5 (FIN MAN); MAD 1–5 (MAN)

a. Available seat capacity for each flight number for June:

Number of seats per flight	180
Number of flights in June (one per day)	× 30
Total seat capacity per flight number (June)	5,400

b.

Flight Number	Number of Seats Sold	Available Seat Capacity [from (a)]	Passenger Load*
57	5,130	5,400	95%
85	2,592	5,400	48%
94	2,376	5,400	44%

* Number of seats sold ÷ Available seat capacity

c. The passenger load information indicates that Flight 57 flies very near to capacity, but Flights 85 and 94 fly at less than half of capacity. This suggests the management of Eastern Skies is offering too much capacity for the morning flights to Chicago. One solution would be to use smaller aircraft for Flights 85 and 94 so as to better match capacity with demand. Alternatively, Eastern could consolidate the two flights into one flight that could depart at some time between the two original times, such as 10:45 AM. Passengers could then migrate to the new flight, resulting in a better utilization of the remaining flight.

TAKE IT FURTHER

TIF 15–1 (FIN MAN); TIF 1–1 (MAN)

Brian has behaved unethically and violated several of the IMA's principles of ethical conduct. By determining the price of the lumber that he is buying, Brian has created a conflict-of-interest situation that violates the principle of objectivity. For professionals to be objective, they must make decisions that are not influenced by their personal feelings or result in personal gains. Since Brian is in a position to directly influence the price that he will pay for the lumber, he cannot be objective. Thus, although it is appropriate for Brian to take advantage of Avett's policy of allowing employees to purchase materials at cost, he should have had someone else (such as his supervisor) determine the amount that he owed for the lumber. Clearly, selecting the lowest price has opened the door for criticism.

TIF 15–2 (FIN MAN); TIF 1–2 (MAN)

Answers may vary slightly by restaurant chosen. A suggested answer for a pizza restaurant follows:

Cost	Direct Materials	Direct Labor	Overhead	Selling Expenses
Ingredients	X			
Cook wages		X		
Manager salary			X	
Depreciation on equipment and fixtures			X	
Coupon costs				X
Advertising				X
To-go boxes	X			
Disposable plates, utensils, cups	X			
Nondisposable plates, utensils, cups			X	
Repair costs			X	
Property taxes			X	
Store depreciation			X	
Cashier salary			X	
Beverages	X			
Building heat and A/C			X	
Salad ingredients	X			
Delivery person wages		X		
Power costs for ovens			X	

In service businesses, the distinction between direct labor and overhead will not always be clear.

TIF 15–3 (FIN MAN); TIF 1–3 (MAN)

Memo

To: Todd Johnson

From: A+ Student

Re: Financial vs. Managerial Accounting Information

The objectives of financial and managerial accounting are quite different, and your statement does not fully consider these differences. In one sense, your statement may be appropriate at high levels in the organization. For example, it is appropriate to evaluate a division manager who is responsible for the overall performance of a division using the same financial performance measures that shareholders use to evaluate the company. However, these measures are not appropriate for evaluating managerial decision making below the division level. At these levels, summary financial performance measures do not provide the relevant information needed to direct and control the company's operations. Operational performance measures need to focus on measuring cost, quality, delivery time, equipment availability, inventory levels, scrap, waste, and efficiency. This list is much broader and more detailed than the financial statement numbers provided to the stockholders.

The stockholders' interest in profit is related to increasing shareholder value. Managers must increase long-term shareholder value by engaging in strategies that enhance people, product, and processes in the delivery of value to customers. These strategies can be measured by both financial and nonfinancial means. Therefore, managerial accounting information needs a much broader set of objective and subjective measures used internally in the organization to guide strategy and operations.

TIF 15–4 (FIN MAN); TIF 1–4 (MAN)

a. The vice president of the Information Systems Division can use managerial accounting information in a number of ways. For example, the vice president might use these data to determine resources that will be needed based on a projection of the amount and type of work required for the next period. Managerial accounting information would also be used to determine whether the bank should lease additional processing capacity or purchase a new central processing unit. In addition, managerial accounting information could be used to achieve better control over information systems activities by evaluating the costs of ongoing operations, based on the demand for information services.

b. The hospital administrator can use managerial accounting information in a number of ways. One way is for cost planning and control. The administrator could use managerial information to keep costs commensurate with services provided and to plan for staffing and nursing levels. This information can be used to determine the cost of various services and, thereby, in making decisions with respect to the amount of service that is appropriate in each case. The administrator can also use managerial accounting information to determine whether the hospital's costs are being covered by fixed payments from Medicare, Medicaid, or insurance. If not, the administrator needs to know the source of the cost overruns. Does the hospital allow too many procedures? Require longer bed days? Have resources that are underutilized (e.g., a cancer wing with three patients)?

c. The CEO of the food company will use managerial accounting information to support the control of the three divisions. Each of the three divisions will be subject to a number of financial goals. The CEO also needs to support strategic decision making. In this regard, the CEO needs managerial accounting information on the profitability of various product families, profitability of different regions, and profitability of various customer segments. This information can guide the CEO in allocating future effort and resources.

d. The copy shop manager needs fairly simple managerial accounting information. At the most basic level, the copy shop manager needs to know the costs of performing various copy tasks, such as one-sided copy, two-sided copy, collating, and binding. These activities will have some direct costs, such as paper, and some indirect costs, such as copy machine time. The manager will need to estimate the impact of both of these costs in order to price the various copy jobs to the public. Managerial accounting information will include the cost details necessary to price the various copy shop services at a level needed to cover equipment costs, lease expenses, and profit.

TIF 15–5 (FIN MAN); TIF 1–5 (MAN)

a. The High Times manager will use managerial accounting information to accumulate the costs associated with different menu items. The costs, direct and indirect, will help in determining the pricing strategy.

b. The plant manager is going to use cost information on scrap and rework to identify the amount of waste occurring in the plant. This measure of waste is fairly common in fabrication-type facilities. The measures can guide the plant manager to locations or products where significant waste is occurring. The plant manager can use the scrap and rework measures to guide operational improvement toward the location that is experiencing the greatest level of scrap or rework. The measures can also monitor improvement in rework and control the number of network hours charged by floor personnel.

c. The cost of ending inventory must be determined as financial statements are prepared. The division controller will likely require inventory valuation at the close of every month in order to have a good understanding of the month-by-month earnings of the division. The division controller will provide the ending inventory information by using managerial accounting information in determining the cost of products. To determine the appropriate cost, the product cost is multiplied by the units left in inventory.

d. The Maintenance Department manager needs to be able to plan the resources used by his department. The planning process involves identifying the required resources to fulfill the department's objective(s). For example, the Maintenance Department manager may know the repair histories of various machines. These histories can be used to forecast the repairs anticipated during the next year. The manager may also know that a new process will be brought online during the next year. New processes are frequently troublesome, so the manager will need to budget additional resources to accommodate introduction of the new technology.

TIF 15–6 (FIN MAN); TIF 1–6 (MAN)

a. Obie's bill has a number of points that should be considered. Some of the points, with the appropriate argument, are identified below.

- **The trip back to the shop resulted in an $80 labor charge. Obie should argue that the whole hour should not be billed. The hour is the result of stocking out of a circuit board on the truck. The circuit board should have been with the repair person. There was a board for the previous customer. However, because only one was stocked, the repair person had to go back to the shop. The trip back to the shop was nonproductive time that should not have been charged directly to Obie but should be part of Geek Chic's overhead cost to all customers. In other words, Obie should not be responsible for this mistake.**
- **The overtime premium should not have been charged to Obie. What if Obie was the first appointment in the morning? If he was, there would be no overtime premium. It's only random misfortune that Obie was the last client of the day and therefore received the overtime premium. Add to this the fact that the overtime would not have been necessary without the trip back to the shop, and the conclusion is that Obie should not be charged directly for overtime. The overtime premium should be part of Geek Chic's overhead charged to all clients equally. Obie should be charged the overtime only if the decision for overtime was caused by or required by Obie.**

Thus, the labor portion of the bill should only be $70 + $60 + $60 = $190.

There are other parts of the bill that should not be in dispute.

- **The materials storage and handling charge is a normal charge of maintaining a parts inventory for the benefit of clients that need parts.**
- **The fringe benefits and overhead added to the hourly rate are both reasonable. The fringe benefit attaches directly to the direct labor. Fringe benefits are just another form of compensation. The overhead must be covered by all customers. Therefore, including overhead in the hourly rate is the most logical method of covering these costs.**
- **The additional charge for the first hour is also reasonable. The first hour charge covers the costs of transit, which are directly attributable to making a home visit. Obie requires a home visit, so Obie should be responsible for the costs of making the visit. If Obie brought the computer to the shop, this cost would not be incurred.**

TIF 15–6 (FIN MAN); TIF 1–6 (MAN) (Concluded)

b. Cost	Direct Materials	Direct Labor	Overhead
Circuit board	X		
Storage and handling			X
Straight-time labor		X	
Fringe benefits*		X	
Overhead			X
Vehicle depreciation and fuel			X
Overtime premium			X

* Could be considered overhead.

CERTIFIED MANAGEMENT ACCOUNTANT (CMA®) EXAMINATION QUESTIONS (ADAPTED)

1. b. **Sales commissions on cars would be part of the selling expense for the car dealership, not a manufacturing cost. Options (a) and (d) are direct material costs, while option (c) would be charged to factory overhead.**

2. c. **Plunkett's product costs are $656,100 and the period costs are $493,000, as follows:**

	Product Costs
Direct materials	$ 56,000
Direct labor	179,100
Overhead	421,000
Total	$656,100

	Period Costs
Selling expenses	$235,900
Administrative expenses	229,400
Fire loss	27,700
Total	$493,000

3. c. **Prime costs of $150,000 are the combination of direct material costs of $100,000 and direct labor costs of $50,000. Conversion costs of $130,000 are the combination of direct labor costs of $50,000 and overhead costs of $80,000.**

4. c. **Factory overhead includes those items that cannot be directly traced to any one particular product and/or is an insignificant part of the total cost. In this case, the wood screws and glue used in the production of school desks and chairs would most likely be classified as factory overhead.**