Solutions for Horngrens Accounting The Managerial Chapters 13th Edition by Nobles

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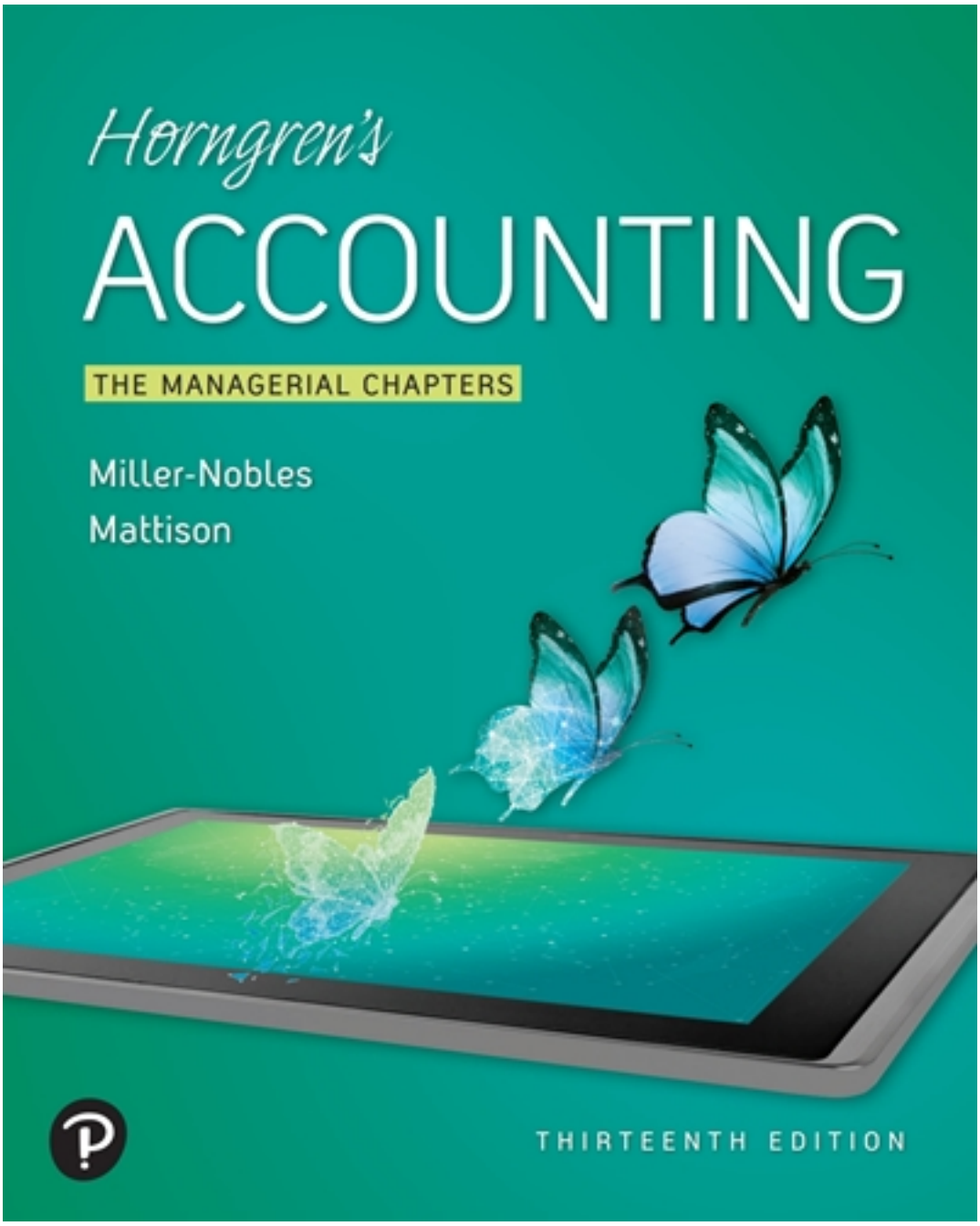

Solutions

Chapter 1
Introduction to Managerial Accounting

Review Questions

1. The primary purpose of managerial accounting is to provide information to help managers plan, direct, control, and make decisions.

2. Financial accounting and managerial accounting differ on the following 6 dimensions: (1) primary users, (2) purpose of information, (3) focus and time dimension of the information, (4) rules and restrictions, (5) scope of information, and (6) behavioral.

3. Line positions are directly involved in providing goods or services to customers. Staff positions support line positions.

4. Planning means choosing goals and deciding how to achieve them. Directing involves running the day-to-day operations of a business. Controlling is the process of monitoring operations and keeping the company on track.

5. The four IMA standards of ethical practice and a description of each follow.

I. Competence.

- Maintain an appropriate level of professional leadership and expertise by enhancing knowledge and skills.
- Perform professional duties in accordance with relevant laws, regulations, and technical standards.
- Provide decision support information and recommendations that are accurate, clear, concise, and timely.
- Recognise and help mange risk.

II. Confidentiality.

- Keep information confidential except when disclosure is authorized or legally required.
- Inform all relevant parties regarding appropriate use of confidential information. Monitor to ensure compliance.
- Refrain from using confidential information for unethical or illegal advantage.

III. Integrity.

- Mitigate actual conflicts of interest. Regularly communicate with business associates to avoid apparent conflicts of interest. Advise all parties of any potential conflicts.
- Refrain from engaging in any conduct that would prejudice carrying out duties ethically.
- Abstain from engaging in or supporting any activity that might discredit the profession.
- Contribute to a positive ethical culture and place integrity of the profession above personal interest.

5, **cont.**

IV. Credibility.

- Communicate information fairly and objectively.
- Provide all relevant information that could reasonably be expected to influence an intended user's understanding of the reports, analyses, or recommendations.
- Report any delays or deficiencies in information, timeliness, processing, or internal controls in conformance with organization policy and/or applicable law.
- Communicate any professional limitations or other constraints that would preclude responsible judgment or successful performance of an activity.

6. Service companies sell time, skills, and knowledge. Examples of service companies include phone service companies, banks, cleaning service companies, accounting firms, law firms, medical physicians, and online auction services.

7. Merchandising companies resell products they buy from suppliers. Merchandisers keep an inventory of products, and managers are accountable for the purchasing, storage, and sale of the products. Examples of merchandising companies include toy stores, grocery stores, and clothing stores.

8. Merchandising companies resell products they previously bought from suppliers, whereas manufacturing companies use labor, equipment, supplies, and facilities to convert raw materials into new finished products. In contrast to merchandising companies, manufacturing companies have a broad range of production activities that require tracking costs on three kinds of inventory.

9. The three inventory accounts used by manufacturing companies are Raw Materials Inventory, Work-in-Process Inventory, and Finished Goods Inventory.

Raw Materials Inventory includes materials used to manufacture a product. Work-in-Process Inventory includes goods that have been started in the manufacturing process but are not yet complete. Finished Goods Inventory includes completed goods that have not yet been sold.

10. A direct cost is a cost that can be easily and cost-effectively traced to a cost object (which is anything for which managers want a separate measurement of cost). An indirect cost is a cost that cannot be easily or cost-effectively traced to a cost object.

11. The three manufacturing costs for a manufacturing company are direct materials, direct labor, and manufacturing overhead. Direct materials are materials that become a physical part of a finished product and whose costs are easily traceable to the finished product. Direct labor is the labor cost of the employees who convert materials into finished products. Manufacturing overhead includes all manufacturing costs except direct materials and direct labor, such as indirect materials, indirect labor, factory depreciation, factory rent, and factory property taxes.

12. Examples of manufacturing overhead include costs of indirect materials, indirect labor, repair and maintenance in factory, factory utilities, factory rent, factory insurance, factory property taxes, manufacturing plant managers' salaries, and depreciation on manufacturing buildings and equipment.

13. Prime costs are direct materials plus direct labor. Conversion costs are direct labor plus manufacturing overhead. Note that direct labor is classified as both a prime cost and a conversion cost.

14. Product costs are the cost of purchasing or making a product. These costs are recorded as an asset and not expensed until the product is sold. Product costs include direct materials, direct labor, and manufacturing overhead.

15. Period costs are non-manufacturing costs that are expensed in the same accounting period in which they are incurred, whereas product costs are recorded as an asset and not expensed until the accounting period in which the product is sold.

16. Cost of Goods Manufactured is calculated as Beginning Work-in-Process Inventory + Total Manufacturing Costs Incurred during the Year – Ending Work-in-Process Inventory. Total Manufacturing Costs Incurred during the Year = Direct Materials Used + Direct Labor + Manufacturing Overhead.

17. For a manufacturing company, the activity in the Finished Goods Inventory account provides the information for determining Cost of Goods Sold. A manufacturing company calculates Cost of Goods Sold as Beginning Finished Goods Inventory + Cost of Goods Manufactured – Ending Finished Good Inventory. In addition, a manufacturing company must track costs from Raw Materials Inventory and Work-in-Process Inventory in order to compute Cost of Goods Manufactured used in the previous equation.

For a merchandising company, the activity in the Merchandise Inventory account provides the information for determining Cost of Goods Sold. A merchandising company calculates Cost of Goods Sold as Beginning Merchandise Inventory + Purchases and Freight In – Ending Merchandise Inventory.

18. A manufacturing company calculates unit product cost as Cost of Goods Manufactured / Total number of units produced.

19. A service company calculates unit cost per service as Total operating costs / Total number of services provided.

20. A merchandising company calculates unit cost per item as Total cost of goods sold / Total number of items sold.

Short Exercises

S-M:1-1

a. FA
b. MA
c. MA
d. FA
e. FA

S-M:1-2

a. Confidentiality
b. Integrity
c. Competence (skipping the session); Integrity (company-paid conference)
d. Competence
e. Credibility; Integrity

S-M:1-3

a. 2
b. 4
c. 1
d. 5
e. 4
f. 5
g. 3

S-M:1-4

Glue for frames	$ 250
Plant depreciation	7,500
Plant foreman's salary	3,500
Plant janitor's wages	1,300
Oil for manufacturing equipment	150
Total manufacturing overhead	$ 12,700

S-M:1-5

a. Period cost
b. Product cost
c. Product cost
d. Period cost
e. Product cost
f. Period cost
g. Product cost
h. Product cost
i. Period cost

S-M:1-6

Beginning merchandise inventory		$ 8,600
Purchases	$ 47,000	
Freight in	2,400	49,400
Cost of goods available for sale		58,000
Ending merchandise inventory		(5,500)
Cost of goods sold		$ 52,500

S-M:1-7

	Solutions:	Calculations:
(a)	$13,200	$63,200 [b, below] – $50,000
(b)	$63,200	$61,000 + $2,200
(c)	$28,000	$40,000 – $12,000
(d)	$200,800	$86,800 [f, below] + 114,000
(e)	$60,000	$89,000 – $29,000
(f)	$86,800	$89,000 – $2,200
(g)	$30,000	$114,000 – $84,000

Order of calculations:
Smith, Inc.: (b), (a), (c)
Allen, Inc.: (e), (f), (d), and (g)

S-M:1-8

Beginning Direct Materials		$ 4,100
Purchases of Direct Materials	$ 6,300	
Freight In	400	6,700
Direct Materials Available for Use		10,800
Ending Direct Materials		(1,300)
Direct Materials Used		$ 9,500

S-M:1-9

Beginning Work-in-Process Inventory		$ 1,000
Direct Materials Used	$ 12,000	
Direct Labor	9,000	
Manufacturing Overhead	21,000	
Total Manufacturing Costs Incurred during the Year		42,000
Total Manufacturing Costs to Account For		43,000
Ending Work-in-Process Inventory		(5,000)
Cost of Goods Manufactured		$ 38,000

S-M:1-10

Beginning Finished Goods Inventory	$ 30,000
Cost of Goods Manufactured	165,000
Cost of Goods Available for Sale	195,000
Ending Finished Goods Inventory	(10,000)
Cost of Goods Sold	$ 185,000

S-M:1-11

1. d.
2. c.
3. e.
4. a.
5. b.

S-M:1-12

Cost of one haircut = Total operating costs / Total number of haircuts

= [$950 + $548 + $190 + $60] / 190 haircuts

= $1,748 / 190 haircuts

= $9.20 per haircut

Exercises

E-M:1-13

a. Financial
b. Creditors and Stockholders
c. Controlling
d. Managers
e. Financial
f. Managerial
g. Planning

E-M:1-14

Students' responses will vary. Illustrative answers follow.

Requirement 1
A new employee who has engaged in this behavior is unlikely to become a valued and trusted employee. This type of behavior is unethical, and Sue Peters should consider beginning the process to terminate the employee. Any company policies with respect to discipline and termination should be followed.

As controller, Sue Peters probably hired Dale, and she is also responsible for the lack of controls that permitted a new employee to commit this theft. She will need to supervise Dale and subsequent bookkeepers more carefully.

Requirement 2
Being a new employee, Sue Peters may want to discuss the situation with her immediate supervisor or the company's president if appropriate. Unless Sue can obtain additional information, she may want to indicate to Dale that this behavior will not be tolerated in the future. Sue should establish better controls and closer supervision.

E-M:1-15

Cost	Product					Period	
	DM	**DL**	**MOH**	**Prime**	**Conversion**	**Selling**	**Admin**
a. Metal used for rims	***X***			***X***			
b. Sales salaries						**X**	
c. Rent on factory			**X**		**X**		
d. Wages of assembly workers		**X**		**X**	**X**		
e. Salary of production supervisor			**X**		**X**		
f. Depreciation on office equipment							**X**
g. Salary of CEO							**X**
h. Delivery expense						**X**	

E-M:1-16

Company A is a manufacturing company. Company B is a service company. Company C is a merchandising company.

E-M:1-17

Company A (all amounts in millions):

Net Sales Revenue		$ 48
Cost of Goods Sold		23
Gross Profit		25
Selling and Administrative Expenses:		
Selling Expenses	$ 4	
Administrative Expenses	7	
Total Selling and Administrative Expenses		11
Operating Income		$ 14

Company B (all amounts in millions):

Service Revenue		$ 65
Expenses:		
Wages Expense	$ 12	
Rent Expense	12	
Total Expenses		24
Operating Income		$ 41

Company C (all amounts in millions):

Net Sales Revenue		$ 75
Cost of Goods Sold		25
Gross Profit		50
Selling and Administrative Expenses:		
Selling Expenses	$ 8	
Administrative Expenses	4	
Total Selling and Administrative Expenses		12
Operating Income		$ 38

E-M:1-18

Company A (all amounts in millions):

Cash	$ 6
Accounts Receivable	14
Raw Materials Inventory	6
Work-in-Process Inventory	9
Finished Goods Inventory	10
Total current assets	$ 45

Company B (all amounts in millions):

Cash	$ 34
Accounts Receivable	8
Total current assets	$ 42

Company C (all amounts in millions):

Cash	$ 25
Accounts Receivable	19
Merchandise Inventory	12
Total current assets	$ 56

E-M:1-19

(a)

Total Manufacturing Costs to Account For	$ 55,400
Total Manufacturing Costs Incurred during the Year	(45,200)
Beginning Work-in-Process Inventory	$ 10,200

(b)

Total Manufacturing Costs Incurred during the Year	$ 45,200
Direct Materials Used	(14,400)
Direct Labor	(10,300)
Manufacturing Overhead	$ 20,500

(c)

Total Manufacturing Costs to Account For	$ 55,400
Cost of Goods Manufactured	(50,500)
Ending Work-in-Process Inventory	$ 4,900

(d)

Direct Materials Used	$ 35,900
Direct Labor	20,100
Manufacturing Overhead	10,000
Total Manufacturing Costs Incurred during the Year	$ 66,000

(e)

Beginning Work-in-Process Inventory	$ 40,800
Total Manufacturing Costs Incurred during the Year [d, above]	66,000
Total Manufacturing Costs to Account For	$ 106,800

(f)

Total Manufacturing Costs to Account For [e, above]	$ 106,800
Ending Work-in-Process Inventory	(25,500)
Cost of Goods Manufactured	$ 81,300

E-M:1-19, cont.

(g)

Total Manufacturing Costs Incurred during the Year [h, below]	$ 6,100
Direct Labor	(1,900)
Manufacturing Overhead	(900)
Direct Materials Used	$ 3,300

(h)

Total Manufacturing Costs to Account For	$ 8,300
Beginning Work-in-Process Inventory	(2,200)
Total Manufacturing Costs Incurred During the Year	$ 6,100

(i)

Total Manufacturing Costs to Account For	$ 8,300
Ending Work-in-Process Inventory	(2,600)
Cost of Goods Manufactured	$ 5,700

E-M:1-20
Requirement 1

WILSON CORP.
Schedule of Cost of Goods Manufactured
Year Ended December 31, 2024

Beginning Work-in-Process Inventory			$ 109,000
Direct Materials Used:			
Beginning Direct Materials	$ 59,000		
Purchases of Direct Materials	151,000		
Direct Materials Available for Use	210,000		
Ending Direct Materials	(23,000)		
Direct Materials Used		$ 187,000	
Direct Labor		121,000	
Manufacturing Overhead:			
Depreciation, plant building and equipment	16,000		
Insurance on plant	24,000		
Repairs and maintenance—plant	10,000		
Indirect labor	39,000		
Total Manufacturing Overhead		89,000	
Total Manufacturing Costs Incurred During the Year			397,000
Total Manufacturing Costs to Account For			506,000
Ending Work-in-Process Inventory			(62,000)
Cost of Goods Manufactured			$ 444,000

Requirement 2

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

= $444,000 / 3,700 lamps

= $120 per lamp

E-M:1-21

Beginning Work-in-Process Inventory			$ 40,000
Direct Materials Used:			
Beginning Direct Materials	$ 27,000		
Purchases of Direct Materials	73,000		
Direct Materials Available for Use	100,000		
Ending Direct Materials	(28,000)		
Direct Materials Used		$ 72,000	
Direct Labor		88,000	
Manufacturing Overhead		43,000	
Total Manufacturing Costs Incurred During the Year			203,000
Total Manufacturing Costs to Account For			243,000
Ending Work-in-Process Inventory			(32,000)
Cost of Goods Manufactured			$ 211,000

Beginning Finished Goods Inventory	$ 18,000	
Cost of Goods Manufactured	211,000	[above]
Cost of Goods Available for Sale	229,000	
Ending Finished Goods Inventory	(25,000)	
Cost of Goods Sold	$ 204,000	

E-M:1-22

a. JIT

b. TQM

c. ERP

d. E-Commerce

E-M:1-23

a.	**People**
b.	**Planet**
c.	**Planet**
d.	**Profit**

E16–24
Requirement 1

Grooming Revenue		$ 16,300
Expenses:		
Wages Expense	$ 4,061	
Grooming Supplies Expense	1,675	
Building Rent Expense	900	
Utilities Expense	305	
Depreciation Expense—Equipment	55	
Total Expenses		6,996
Operating Income		$ 9,304

Requirement 2

Cost of Service to Groom One Dog = Total operating expenses / Total number of dogs groomed

= $6,996 / 660 dogs

= $10.60 per dog

E-M:1-25
Requirement 1

Net Sales Revenue		$ 151,800
Cost of Goods Sold:		
Beginning Merchandise Inventory	$ 7,920	
Purchases	85,800	
Cost of Goods Available for Sale	93,720	
Ending Merchandise Inventory	(11,748)	
Cost of Goods Sold		81,972
Gross Profit		69,828
Selling and Administrative Expenses		47,058
Operating Income		$ 22,770

Requirement 2

Unit cost for one brush	=	Cost of goods sold / Total units sold
	=	$81,972 / 6,600 brushes
	=	$12.42 per brush

Problems (Group A)

P-M:1-26A

Students' responses will vary. Illustrative answers follow.

Requirement 1

a. If the goods have been received, postponing recording of the purchases understates liabilities. This is unethical and inconsistent with the IMA standards even if the suppliers agree to delay billing.

b. The software has not been sold. Therefore, it would be inconsistent with the IMA standards to record it as sales.

c. Delaying year-end closing incorrectly records next year's sales in this year's sales. This is unethical and inconsistent with the IMA standards.

d. The appropriate allowance for bad debts is a difficult judgment. The decision should not be driven by the desire to meet a profit goal. It should be based on the likelihood that the company will not collect the debts. We cannot determine this without more information. However, since the company emphasizes earnings growth, which can lead to sales to customers with weaker credit records, reducing the allowance seems questionable. It is not clear whether this strategy is inconsistent with the IMA standards.

e. If the maintenance is postponed, there is no transaction to record. This strategy is beyond the responsibility of the controller, so it does not violate IMA standards.

Requirement 2

The inconsistencies noted for Smart Software, Inc. particularly impact the financial statement information provided by financial accounting to external users, such as creditors and stockholders. They will be led to believe the operating performance (profitability) of the company is better than it really is. This misrepresentation may result in the investors holding the stock when they may have sold it with the correct information. Similarly, creditors may grant credit to the company with the false income information when they may not grant credit with the correct income information.

Requirement 3

The controller should resist attempts to implement a, b, and c and should gather more information about d. If the President ignores Wallace, then Wallace needs to consider if she wants to work for a company that engages in unethical behavior. Accountants should not be associated with any unethical behavior, and Wallace should resign.

P-M:1-27A
Requirement 1

Period costs are non-manufacturing costs that are expensed in the accounting period in which they are incurred.

Product costs are all costs of purchasing or making a product. These costs are recorded as an asset (inventory) on the balance sheet until the asset is sold. The cost is then transferred to an expense account (Cost of Goods Sold) on the income statement. Product costs include direct materials, direct labor, and manufacturing overhead.

On the income statement, Cost of Goods Sold (product cost) is subtracted from Net Sales Revenue to determine gross profit. The period costs are then subtracted to determine operating income.

Requirement 2

Cost:	Period Cost	Product Cost		
		Direct Materials	Direct Labor	Manufacturing Overhead
Shaft and handle of weed trimmer		X		
Motor of weed trimmer		X		
Factory labor for workers assembling weed trimmers			X	
Nylon thread used by the weed trimmer (not traced to the product)				X
Glue to hold housing together				X
Plant janitorial wages				X
Depreciation on factory equipment				X
Rent on plant				X
Sales commissions	X			
Administrative salaries	X			
Plant utilities				X
Shipping costs to deliver finished weed trimmers to customers	X			

P-M:1-28A
Requirement 1

Service companies sell services rather than products. They sell time, skills, and knowledge. Merchandising companies resell products previously bought from suppliers. Manufacturing companies use labor, equipment, supplies, and facilities to convert raw materials into new finished products.

Requirement 2

Company A is a merchandising company. Company B is a manufacturing company. The company types can be determined by the account names in the ledger.

Requirement 3

Company A:

Beginning Merchandise Inventory	$ 10,600
Purchases (net)	154,500
Cost of Goods Available for Sale	165,100
Ending Merchandise Inventory	(13,100)
Cost of Goods Sold	$ 152,000

Company B:

Beginning Finished Goods Inventory	$ 15,000
Cost of Goods Manufactured	214,500
Cost of Goods Available for Sale	229,500
Ending Finished Goods Inventory	(11,700)
Cost of Goods Sold	$ 217,800

P-M:1-29A
Requirement 1

GOURMET BONES
Schedule of Cost of Goods Manufactured
Year Ended December 31, 2024

Beginning Work-in-Process Inventory			$ 0
Direct Materials Used:			
Beginning Direct Materials	$ 13,500		
Purchases of Direct Materials	36,000		
Direct Materials Available for Use	49,500		
Ending Direct Materials	(7,500)		
Direct Materials Used		$ 42,000	
Direct Labor		23,000	
Manufacturing Overhead:			
Plant janitorial services	700		
Utilities for plant	1,300		
Rent on plant	17,000		
Total Manufacturing Overhead		19,000	
Total Manufacturing Costs Incurred during the Year			84,000
Total Manufacturing Costs to Account For			84,000
Ending Work-in-Process Inventory			(3,500)
Cost of Goods Manufactured			$ 80,500

P-M:1-29A, cont.
Requirement 2

GOURMET BONES Income Statement Year Ended December 31, 2024		
Net Sales Revenue		$ 107,000
Cost of Goods Sold:		
Beginning Finished Goods Inventory	$ 0	
Cost of Goods Manufactured*	80,500	
Cost of Goods Available for Sale	80,500	
Ending Finished Goods Inventory	(5,200)	
Cost of Goods Sold		75,300
Gross Profit		31,700
Selling and Administrative Expenses:		
Sales Salaries Expense	6,000	
Delivery Expense	1,300	
Customer Service Hotline Expense	1,200	
Total Selling and Administrative Expenses		8,500
Operating Income (Loss)		$ 23,200

* From the Schedule of Cost of Goods Manufactured in Requirement 1.

Requirement 3

For a manufacturing company, cost of goods sold on the income statement is based on cost of goods manufactured and the change in Finished Goods Inventory. For a merchandising company, cost of goods sold on the income statement is based on cost of merchandise purchased (including freight in) and the change in Merchandise Inventory.

Requirement 4

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

= $80,500 / 17,900 units

= $4.50 per unit (rounded to nearest cent)

P-M:1-30A

ELLY MANUFACTURING COMPANY
Schedule of Cost of Goods Manufactured
Month Ended June 30, 2024

Beginning Work-in-Process Inventory			$ 27,000
Direct Materials Used:			
Beginning Direct Materials	$ **28,000**		
Purchases of Direct Materials	56,000		
Direct Materials Available for Use	84,000		
Ending Direct Materials	(20,000)		
Direct Materials Used		**64,000**	
Direct Labor		**72,000**	
Manufacturing Overhead		44,000	
Total Manufacturing Costs Incurred During the Month			180,000
Total Manufacturing Costs to Account For			**207,000**
Ending Work-in-Process Inventory			(25,000)
Cost of Goods Manufactured			$ **182,000**

Missing Amounts:

Beginning Direct Materials

Direct Materials Available for Use	$ 84,000
Purchases of Direct Materials	(56,000)
Beginning Direct Materials	$ 28,000

Direct Materials Used:

Direct Materials Available for Use	$ 84,000
Ending Direct Materials	(20,000)
Direct Materials Used	$ 64,000

Direct Labor:

Total Manufacturing Costs Incurred During the Month	$ 180,000
Manufacturing Overhead	(44,000)
Direct Materials Used [calculated above]	(64,000)
Direct Labor	$ 72,000

P-M:1-30A, cont.

Total Manufacturing Costs to Account For:

Beginning Work-in-Process Inventory	$ 27,000
Total Manufacturing Costs Incurred During the Month	180,000
Total Manufacturing Costs to Account For	$ 207,000

Cost of Goods Manufactured:

Total Manufacturing Costs to Account For [calculated above]	$ 207,000
Ending Work-in-Process Inventory	(25,000)
Cost of Goods Manufactured	$ 182,000

ELLY MANUFACTURING COMPANY
Income Statement
Month Ended June 30, 2024

Net Sales Revenue		$ **490,000**
Cost of Goods Sold:		
Beginning Finished Goods Inventory	$ 110,000	
Cost of Goods Manufactured	**182,000**	
Cost of Goods Available for Sale	**292,000**	
Ending Finished Goods Inventory	**(60,000)**	
Cost of Goods Sold		232,000
Gross Profit		258,000
Selling and Administrative Expenses:		
Selling Expenses	98,000	
Administrative Expenses	**62,000**	
Total Selling and Administrative Expenses		160,000
Operating Income		$ **98,000**

Missing Amounts:

Net Sales Revenue:

Cost of Goods Sold	$ 232,000
Gross Profit	258,000
Net Sales Revenue	$ 490,000

P-M:1-30A, cont.

Cost of Goods Manufactured:
[From the Schedule of Cost of Goods Manufactured]

Cost of Goods Available for Sale:

Beginning Finished Goods Inventory	$ 110,000
Cost of Goods Manufactured	182,000
Cost of Goods Available for Sale	$ 292,000

Ending Finished Goods Inventory:

Cost of Goods Available for Sale [calculated above]	$ 292,000
Cost of Goods Sold	(232,000)
Ending Finished Goods Inventory	$ 60,000

Administrative Expenses:

Total Selling and Administrative Expenses	$ 160,000
Selling Expenses	(98,000)
Administrative Expenses	$ 62,000

Operating Income:

Gross Profit	$ 258,000
Total Selling and Administrative Expenses	(160,000)
Operating Income	$ 98,000

P-M:1-31A
Requirement 1

Cost of direct materials purchased:

Direct Materials Used	=	Beginning Direct Materials	+	Purchases of Direct Materials	–	Ending Direct Materials

Solving for cost of direct materials purchased:

Purchases of Direct Materials	=	Direct Materials Used	+	Ending Direct Materials	–	Beginning Direct Materials
	=	$2,000,000	+	$800,000	–	$700,000
	=	$2,100,000				

Requirement 2

Cost of goods manufactured for the year:

Cost of Goods Manufactured	=	Beginning Work-in-Process Inventory	+	Total Manufacturing Costs Incurred	–	Ending Work-in-Process Inventory
	=	$1,500,000	+	$26,300,000	–	$1,200,000
	=	$26,600,000				

Requirement 3

Cost of goods sold for the year:

Cost of Goods Sold	=	Beginning Finished Goods Inventory	+	Cost of Goods Manufactured	–	Ending Finished Goods Inventory
	=	$400,000	+	$26,600,000 [calculated in 2]	–	$600,000
	=	$26,400,000				

P-M:1-32A
Requirement 1

THE WINDSHIELD DOCTORS
Income Statement
Month Ended March 31, 2024

Revenues:		
Net Service Revenue		$ 23,000
Expenses:		
Salaries and Wages Expense	$ 12,000	
Materials Expense	4,600	
Depreciation Expense—Truck	300	
Depreciation Expense—Building and Equipment	1,200	
Supplies Expense	300	
Utilities Expense	460	
Total Expenses		18,860
Operating Income		$ 4,140

Requirement 2

Unit cost = Total operating expenses / Total windshields repaired

= $18,860 / 500 windshields

= $37.72 per windshield

Requirement 3

Yes. The actual unit cost per windshield of $37.72 is less than $50.

P-M:1-33A
Requirement 1

CLYDE'S PETS
Income Statement
Year Ended December 31, 2024

Net Sales Revenue		$ 56,000
Cost of Goods Sold:		
Beginning Merchandise Inventory	$ 15,900	
Purchases of Merchandise	25,000	
Cost of Goods Available for Sale	40,900	
Ending Merchandise Inventory	(10,100)	
Cost of Goods Sold		30,800
Gross Profit		25,200
Selling and Administrative Expenses:		
Utilities Expense	3,300	
Rent Expense	4,100	
Sales Commission Expense	2,650	
Total Selling and Administrative Expenses		10,050
Operating Income		$ 15,150

Requirement 2

Unit cost = Cost of goods sold / Total units sold

= $30,800 / 3,850 units

= $8.00 per unit

Problems (Group B)

P-M:1-34B

Students' responses will vary. Illustrative answers follow.

Requirement 1

a. If the goods have been received, postponing recording of the purchases understates liabilities. This is unethical and inconsistent with the IMA standards even if the suppliers agree to delay billing.

b. The software has not been sold. Therefore, it would be inconsistent with the IMA standards to record it as sales.

c. Delaying year-end closing incorrectly records next year's sales in this year's sales. This is unethical and inconsistent with the IMA standards.

d. The appropriate allowance for bad debts is a difficult judgment. The decision should not be driven by the desire to meet a profit goal. It should be based on the likelihood that the company will not collect the debts. We cannot determine this without more information. However, since the company emphasizes earnings growth, which can lead to sales to customers with weaker credit records, reducing the allowance seems questionable. It is not clear whether this strategy is inconsistent with the IMA standards.

e. If the maintenance is postponed, there is no transaction to record. This strategy is beyond the responsibility of the controller, so it does not violate IMA standards.

Requirement 2

The inconsistencies noted for Halo Software, Inc. particularly impact the financial statement information provided by financial accounting to external users, such as creditors and stockholders. They will be led to believe the operating performance (profitability) of the company is better than it really is. This misrepresentation may result in the investors holding the stock when they may have sold it with the correct information. Similarly, creditors may grant credit to the company with the false income information when they may not grant credit with the correct income information.

Requirement 3

The controller should resist attempts to implement a, b, and c and should gather more information about d. If the President ignores Borzi, then Borzi needs to consider if she wants to work for a company that engages in unethical behavior. Borzi should not be associated with unethical behavior and should resign.

P-M:1-35B
Requirement 1

Period costs are non-manufacturing costs that are expensed in the accounting period in which they are incurred.

Product costs are the costs of purchasing or making a product. These costs are recorded as an asset (inventory) on the balance sheet until the asset is sold. The cost is then transferred to an expense account (Cost of Goods Sold) on the income statement. Product costs include direct materials, direct labor, and manufacturing overhead.

On the income statement, Cost of Goods Sold (product cost) is subtracted from Net Sales Revenue to determine gross profit. The period costs are then subtracted from gross profit to determine operating income.

Requirement 2

Cost:	Period Cost	Product Cost		
		Direct Materials	Direct Labor	Manufacturing Overhead
Handle and shaft of edger		X		
Motor of edger		X		
Factory labor for workers assembling edgers			X	
Lubricant used on bearings in the edger (not traced to the product)				X
Glue to hold housing together				X
Plant janitorial wages				X
Depreciation on factory equipment				X
Rent on plant				X
Sales commissions	X			
Administrative salaries	X			
Plant utilities				X
Shipping costs to deliver finished edgers to customers	X			

P-M:1-36B
Requirement 1

Service companies sell services rather than products. They sell time, skills, and knowledge. Merchandising companies resell products previously bought from suppliers. Manufacturing companies use labor, equipment, supplies, and facilities to convert raw materials into new finished products.

Requirement 2

Company 1 is a merchandising company. Company 2 is a manufacturing company. The company type can be determined by the account names in the ledger.

Requirement 3

Company 1:

Beginning Merchandise Inventory	$ 11,600
Purchases (net)	152,500
Cost of Goods Available for Sale	164,100
Ending Merchandise Inventory	(12,400)
Cost of Goods Sold	$ 151,700

Company 2:

Beginning Finished Goods Inventory	$ 15,400
Cost of Goods Manufactured	214,500
Cost of Goods Available for Sale	229,900
Ending Finished Goods Inventory	(11,300)
Cost of Goods Sold	$ 218,600

P-M:1-37B
Requirement 1

CHEWY BONES
Schedule of Cost of Goods Manufactured
Year Ended December 31, 2024

Beginning Work-in-Process Inventory			$ 0
Direct Materials Used:			
Beginning Direct Materials	$ 13,400		
Purchases of Direct Materials	39,000		
Direct Materials Available for Use	52,400		
Ending Direct Materials	(10,500)		
Direct Materials Used		$ 41,900	
Direct Labor		16,000	
Manufacturing Overhead:			
Plant janitorial services	900		
Utilities for plant	1,200		
Rent on plant	9,000		
Total Manufacturing Overhead		11,100	
Total Manufacturing Costs Incurred during the Year			69,000
Total Manufacturing Costs to Account For			69,000
Ending Work-in-Process Inventory			(1,500)
Cost of Goods Manufactured			$ 67,500

P-M:1-37B, cont.
Requirement 2

CHEWY BONES Income Statement Year Ended December 31, 2024		
Net Sales Revenue		$ 115,000
Cost of Goods Sold:		
Beginning Finished Goods Inventory	$ 0	
Cost of Goods Manufactured*	67,500	
Cost of Goods Available for Sale	67,500	
Ending Finished Goods Inventory	(5,400)	
Cost of Goods Sold		62,100
Gross Profit		52,900
Selling and Administrative Expenses:		
Sales Salaries Expense	5,100	
Delivery Expense	1,700	
Customer Service Hotline Expense	1,600	
Total Selling and Administrative Expenses		8,400
Operating Income (Loss)		$ 44,500

* From the Schedule of Cost of Goods Manufactured in Requirement 1.

Requirement 3

For a manufacturing company, cost of goods sold on the income statement is based on cost of goods manufactured and the change in Finished Goods Inventory. For a merchandising company, cost of goods sold on the income statement is based on cost of merchandise purchased (including freight in) and the change in Merchandise Inventory.

Requirement 4

Unit cost	=	Cost of goods manufactured / Total units produced
	=	$67,500 / 17,500 units
	=	$3.86 per unit (rounded to the nearest cent)

P-M:1-38B

CHARLIE MANUFACTURING COMPANY
Schedule of Cost of Goods Manufactured
Month Ended June 30, 2024

Beginning Work-in-Process Inventory			$ 26,000
Direct Materials Used:			
Beginning Direct Materials	$ **30,000**		
Purchases of Direct Materials	51,000		
Direct Materials Available for Use	81,000		
Ending Direct Materials	(26,000)		
Direct Materials Used		$ **55,000**	
Direct Labor		**72,000**	
Manufacturing Overhead		50,000	
Total Manufacturing Costs Incurred During the Month			177,000
Total Manufacturing Costs to Account For			**203,000**
Ending Work-in-Process Inventory			(29,000)
Cost of Goods Manufactured			$ **174,000**

Missing Amounts:

Beginning Direct Materials:

Direct Materials Available for Use	$ 81,000
Purchases of Direct Materials	(51,000)
Beginning Direct Materials	$ 30,000

Direct Materials Used:

Direct Materials Available for Use	$ 81,000
Ending Direct Materials	(26,000)
Direct Materials Used	$ 55,000

Direct Labor:

Total Manufacturing Costs Incurred During the Month	$ 177,000
Manufacturing Overhead	(50,000)
Direct Materials Used [calculated above]	(55,000)
Direct Labor	$ 72,000

P-M:1-38B, cont.

Total Manufacturing Costs to Account For:

Beginning Work-in-Process Inventory	$ 26,000
Total Manufacturing Costs Incurred During the Month	177,000
Total Manufacturing Costs to Account For	$ 203,000

Cost of Goods Manufactured:

Total Manufacturing Costs to Account For [calculated above]	$ 203,000
Ending Work-in-Process Inventory	(29,000)
Cost of Goods Manufactured	$ 174,000

CHARLIE MANUFACTURING COMPANY
Income Statement
Month Ended June 30, 2024

Net Sales Revenue		$ **500,000**
Cost of Goods Sold:		
Beginning Finished Goods Inventory	$ 118,000	
Cost of Goods Manufactured	**174,000**	
Cost of Goods Available for Sale	**292,000**	
Ending Finished Goods Inventory	**(60,000)**	
Cost of Goods Sold		232,000
Gross Profit		268,000
Selling and Administrative Expenses:		
Selling Expenses	90,000	
Administrative Expenses	**60,000**	
Total Selling and Administrative Expenses		150,000
Operating Income		$ **118,000**

Missing Amounts:

Net Sales Revenue:

Cost of Goods Sold	$ 232,000
Gross Profit	268,000
Net Sales Revenue	$ 500,000

P-M:1-38B, cont.

Cost of Goods Manufactured:
[From the Schedule of Cost of Goods Manufactured]

Cost of Goods Available for Sale:

Beginning Finished Goods Inventory	$ 118,000
Cost of Goods Manufactured	174,000
Cost of Goods Available for Sale	$ 292,000

Ending Finished Goods Inventory:

Cost of Goods Available for Sale [calculated above]	$ 292,000
Cost of Goods Sold	(232,000)
Ending Finished Goods Inventory	$ 60,000

Administrative Expenses:

Total Selling and Administrative Expenses	$ 150,000
Selling Expenses	(90,000)
Administrative Expenses	$ 60,000

Operating Income:

Gross Profit	$ 268,000
Total Selling and Administrative Expenses	(150,000)
Operating Income	$ 118,000

P-M:1-39B
Requirement 1

Cost of direct materials purchased during the year:

Direct Materials Used	=	Beginning Direct Materials	+	Purchases of Direct Materials	–	Ending Direct Materials

Solving for cost of direct materials purchased:

Purchases of Direct Materials	=	Direct Materials Used	+	Ending Direct Materials	–	Beginning Direct Materials
	=	$2,600,000	+	$800,000	–	$700,000
	=	$2,700,000				

Requirement 2

Cost of goods manufactured for the year:

Cost of Goods Manufactured	=	Beginning Work-in-Process Inventory	+	Total Manufacturing Costs Incurred	–	Ending Work-in-Process Inventory
	=	$1,500,000	+	$21,900,000	–	$2,000,000
	=	$21,400,000				

Requirement 3

Cost of goods sold for the year:

Cost of Goods Sold	=	Beginning Finished Goods Inventory	+	Cost of Goods Manufactured	–	Ending Finished Goods Inventory
	=	$1,100,000	+	$21,400,000 [calculated in 2]	–	$1,080,000
	=	$21,420,000				

P-M:1-40B
Requirement 1

THE GLASS DOCTORS
Income Statement
Month Ended July 31, 2024

Revenues:		
Net Service Revenue		$ 25,000
Expenses:		
Salaries and Wages Expense	$ 10,000	
Materials Expense	4,100	
Depreciation Expense—Truck	500	
Depreciation Expense—Building and Equipment	900	
Supplies Expense	450	
Utilities Expense	4,550	
Total Expenses		20,500
Operating Income		$ 4,500

Requirement 2

Unit cost	=	Total operating expenses / Total windshields repaired
	=	$20,500 / 250 windshields
	=	$82.00 per windshield

Requirement 3

No. The actual unit cost per windshield of $82.00 is greater than $80.

P-M:1-41B
Requirement 1

DILLON'S PETS
Income Statement
Year Ended December 31, 2024

Net Sales Revenue		$ 56,000
Cost of Goods Sold:		
Beginning Merchandise Inventory	$ 16,000	
Purchases of Merchandise	25,000	
Cost of Goods Available for Sale	41,000	
Ending Merchandise Inventory	(10,500)	
Cost of Goods Sold		30,500
Gross Profit		25,500
Selling and Administrative Expenses:		
Utilities Expense	3,200	
Rent Expense	4,100	
Sales Commission Expense	2,750	
Total Selling and Administrative Expenses		10,050
Operating Income		$ 15,450

Requirement 2

Unit cost = Cost of goods sold / Total units sold

= $30,500 / 5,550 units

= $5.50 per unit (rounded to the nearest cent)

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 located in MyLab Accounting in the Instructor Resource Center or at http://www.pearsonhighered.com/Horngren.

Continuing Problem

P-M:1-42

PIEDMONT COMPUTER COMPANY
Schedule of Cost of Goods Manufactured
Month Ended January 31, 2024

Beginning Work-in-Process Inventory			$ 0
Direct Materials Used:			
Beginning Direct Materials	$ 10,500		
Purchases of Direct Materials	16,000		
Direct Materials Available for Use	26,500		
Ending Direct Materials	(9,700)		
Direct Materials Used		$ 16,800	
Direct Labor		210,000	
Manufacturing Overhead:			
Plant janitorial services	500		
Utilities for plant	16,000		
Rent on plant	9,000		
Total Manufacturing Overhead		25,500	
Total Manufacturing Costs Incurred during the Month			252,300
Total Manufacturing Costs to Account For			252,300
Ending Work-in-Process Inventory			(17,000)
Cost of Goods Manufactured			$ 235,300

Critical Thinking

Tying It All Together Case M:1–1

Requirement 1

Winnebago's finished goods inventory is such a relatively small portion of total inventory because Winnebago manufactures the RVs and then sells them to dealerships for resale to consumers. The company does not own or operate dealerships. Therefore, Winnebago has a relatively small portion of Finished Goods Inventory. As soon as RVs are complete, Winnebago will want to sell them to the dealerships. The majority of Winnebago's inventory is in Raw Materials Inventory that will be used in the manufacturing process and Work–in–Process Inventory of the RVs started but not yet completed.

Requirement 2

Average cost of goods sold = Average sales price × Cost of goods sold % = $96,000 × 85% = $81,600.

Average gross profit = Average sales price – Average cost of goods sold = $96,000 – $81,600 = $14,400.

Requirement 3

Average cost of goods sold = Average sales price × Cost of goods sold % = $96,000 × 82% = $78,720.

Average gross profit = Average sales price – Average cost of goods sold = $96,000 – $78,720 = $17,280. Profits would increase by $2,880 ($17,280 – $14,400) per motor home sold.

Requirement 4

Total increase in operating income = Average increase in profits per motor home × Number of motor homes = $2,880 per motor home × 9,548 motor homes = $27,498,240.

Requirement 5

Managerial accounting provides detailed information on all costs incurred by the company. Managers can use the information provided to analyze different types of costs, such as product costs and period costs, to determine where actual costs exceeded expected costs and then consider options to reduce those costs.

Decision Case M:1-1
Requirement 1

Shown in the schedule, below, the ending inventories are: Direct Materials, $143,000; Work-in-Process Inventory, $239,000; and Finished Goods Inventory, $150,000.

POWERSWITCH, INC.
Flow of Costs Schedule
For the 1st Quarter

Raw Materials Inventory**		Work-in-Process Inventory		Finished Goods Inventory	
Beginning DM	$ 113,000 *	Beginning WIP Inventory	$ 229,000 *	Beginning FG Inventory	$ 154,000 *
+ Purchases of DM	476,000 *	+ Direct Materials Used	446,000 [e]	+ Cost of Goods Manufactured	1,186,000 [c]
		+ Direct Labor	505,000 *		
		+ Manufacturing Overhead	245,000 *		
= Direct Materials Available for Use	589,000	= Total Manufacturing Costs to Account For	1,425,000 *	= Cost of Goods Available for Sale	1,340,000 *
− Ending DM	143,000 [f]	− Ending WIP Inventory	239,000 [d]	− Ending FG Inventory	150,000 [b]
= Direct Materials Used	$ 446,000 [e]	= Cost of Goods Manufactured	$ 1,186,000 [c]	= Cost of Goods Sold	$ 1,190,000 [a]

* Denotes amounts given in the case.
**Direct materials portion only

Calculations for amounts denoted with a superscript letters are provided on the next two pages.

Decision Case M:1-1, cont.

Calculations:

[a] Cost of Goods Sold:

Sales	×	(1 – Gross Profit %)	=	Cost of Goods Sold
$1,700,000	×	(1 – 30%)	=	$1,190,000
$1,700,000	×	70%	=	$1,190,000

[b] Ending Finished Goods Inventory:

Cost of Goods Available for Sale	–	Ending Finished Goods Inventory	=	Cost of Goods Sold
$1,340,000	–	Ending Finished Goods Inventory	=	$1,190,000
Therefore:		Ending Finished Goods Inventory	=	$150,000

[c] Cost of Goods Manufactured:

Beginning Finished Goods Inventory	+	Cost of Goods Manufactured	=	Cost of Goods Available for Sale
$154,000	+	Cost of Goods Manufactured	=	$1,340,000
Therefore:		Cost of Goods Manufactured	=	$1,186,000

[d] Ending Work-in-Process Inventory:

Total Manufacturing Costs to Account For	–	Ending Work-in-Process Inventory	=	Cost of Goods Manufactured
$1,425,000	–	Ending Work-in-Process Inventory	=	$1,186,000
Therefore:		Ending Work-in-Process Inventory	=	$ 239,000

Decision Case M:1-1, cont.

[e] Direct Materials Used:

Beginning Work-in-Process Inventory	+	Direct Materials Used	+	Direct Labor	+	Manufacturing Overhead	=	Total Manufacturing Costs to Account For
$229,000	+	Direct Materials Used	+	$505,000	+	$245,000	=	$1,425,000
Therefore:		Direct Materials Used					=	$ 446,000

[f] Ending Direct Materials:

Direct Materials Available for Use	–	Ending Direct Materials	=	Direct Materials Used
$589,000	–	Ending Direct Materials	=	$446,000
Therefore:		Ending Direct Materials	=	$143,000

Requirement 2

Inventory lost in the flood:

Direct Materials	$ 143,000
Work-in-Process Inventory	239,000
Finished Goods Inventory	150,000
Total Inventory	$ 532,000

Ethical Issue M:1-1

Students' responses will vary. Illustrative answers follow.

a. The ethical issue facing Becky is deciding what to do about the owner's gifts to the regional sales managers. Although small "courtesy" gifts are accepted practice in the world of sales, the regular basis and the high value of these items (especially jewelry) suggest that the owner is bribing the sales managers and other sales executives to receive a large allocation of cars.

b. The options include:
(1) Do nothing,
(2) Discuss the matter with the owner,
(3) Resign if the owner will not stop the practice, or
(4) Inform the manufacturer.

c. The possible consequences include:

1. If Becky does nothing, her job and those of the other employees may remain secure for the time being. However, as controller she could be held accountable for laundering a bribe if the scheme became public. A lawsuit brought by other dealers who did not receive a fair share of available cars could name her as an involved party. If Becky is a CPA, she could also lose her CPA license.

   There are also potential tax consequences to consider. Since the jewelry expenditures are being recorded as selling expenses, it is likely that this amount is being deducted on the company's tax return. The IRS limits deductions of gifts to $25 per person per year. Since a Rolex watch far exceeds the cost of $25, Becky's failure to disclose the true nature of the expense may make her liable for underreporting the company's tax liability.

2. If Becky discusses the matter with the owner, she might find out that there is another side to the story and in fact there is no wrongdoing or ethical dilemma. However, this seems unlikely given the facts. It also seems unlikely that the owner will end this practice since it enhances the dealership's profits. However, Becky may have some influence on Mueller if she explains the dangers of continuing the bribes. Mueller could be sued by other dealers, or the manufacturer could cancel his dealership. Such outcomes would affect all the dealership's employees, not just Mueller. If Mueller refuses to change his ways, then Becky is in an even more difficult position because she now has direct knowledge of the bribery.

Ethical Issue M:1-1, cont.

3. By resigning, Becky loses her job but protects her integrity and avoids being involved in a subsequent action against the dealership if the bribery becomes known.

4. Perhaps an even more difficult question is whether Becky should inform the manufacturer about the bribery. If Becky has not already resigned, Mueller probably would fire her for taking this action.

d. Accountants should never become party to, or appear to be involved in, an unethical (and possibly illegal) situation such as this. This is especially true for persons with fiduciary responsibilities like a controller. Becky should discuss her concerns with the owner. If Mueller is indeed bribing the sales representatives and refuses to stop this practice, Becky should inform the manufacturer, or she should resign.

Communication Activity M:1-1

Period costs are operating costs that are expensed in the same accounting period in which they are incurred, whereas product costs are recorded as an asset and not expensed until the accounting period in which the product is sold. Period costs are all costs not considered product costs.

Manufacturing companies track costs on three kinds of inventory. Raw Materials Inventory includes materials used to manufacture a product. Work-in-Process Inventory includes goods that have been started in the manufacturing process but are not yet complete. Finished Goods Inventory includes completed goods that have not yet been sold.

Chapter 1

Introduction to Managerial Accounting

Chapter Overview

The chapter introduces students to managerial accounting as distinguished from financial accounting. Students learn about the information that managers—the decision makers inside the business—must know and use in order to effectively plan and control the business. The differences between financial and managerial accounting are delineated. The role of the manager as well as managerial accounting functions are emphasized. The chapter continues with a discussion of the professional ethical standards for management accountants: competence, confidentiality, integrity, and credibility.

Cost classification categories are explained, including direct/indirect costs, product/period costs, and types of manufacturing product costs (direct materials, direct labor, and manufacturing overhead), which can be alternatively categorized as prime costs (direct materials and direct labor) or conversion costs (direct labor and manufacturing overhead). Service companies, merchandising companies, and manufacturing companies are discussed, and a balance sheet and income statement examples are provided for each. The calculation of cost of goods manufactured is presented, and a schedule example is provided. Exhibits help students visualize the flow of costs through a manufacturing company's accounting system to the income statement. A discussion of today's business environment points out that recent trends include a shift toward a service economy, competing in the global marketplace, timed-based competition, advanced information systems, e-commerce, just-in-time management, advances in technology, the total quality movement, and integrated economic, social, and environmental reporting. The chapter concludes with a discussion on how to calculate cost per unit for a merchandising business and cost per service for a service business.

An Ethics feature provides an ethical dilemma that can be used for discussion purposes. A Tying It All Together feature provides a look into the balance sheet and income statement of Winnebago Industries, Inc. The Review section includes Things You Should Know which highlights the information students should have acquired from the chapter. A Check Your Understanding Problem reviews product/period cost categorization and calculation of cost of goods manufactured, cost of goods sold, and cost per unit. A list of Key Terms is provided. A Quick Check gives students a chance to assess their knowledge of the chapter learning objectives.

Chapter 1: Learning Objectives

LO 1. Define managerial accounting and understand how it is used

LO 2. Classify costs used in managerial accounting

LO 3. Prepare financial statements for a manufacturer, including a balance sheet, income statement, and schedule of cost of goods manufactured

LO 4. Describe business trends affecting managerial accounting

LO 5. Describe how managerial accounting is used in service and merchandising companies

Chapter 1: Teaching Outline with Lecture Notes

LO 1. Define managerial accounting and understand how it is used

- Exhibit M:1-1: Financial Accounting Versus Managerial Accounting

a) Managers' role in the organization

- Exhibit M:1-2: Organizational Chart for Smart Touch Learning (Partial)

b) Managerial accounting functions

- Exhibit M:1-3: Pathways Vision Model

c) Ethical standards of managers

- Exhibit M:1-4: IMA Statement of Ethical Professional Practice (Excerpt)

Lecture Notes: Students are not as familiar with managerial accounting as they are financial accounting. Emphasize the key difference: Managerial accounting is focused on internal users of financial information for decision making, while financial accounting is focused on external users for financial reporting. Managers throughout the organization rely on managerial accounting to help plan, direct, control, and make decisions about the business. The Pathways Vision Model provides a visual way for students to more clearly understand the role of managerial accounting in making good decisions.

The Institute of Management Accountants (IMA) has developed ethical standards requiring managerial accountants to maintain their professional competence, preserve the confidentiality of the information they handle, and act with integrity and credibility.

Suggested In-Class Exercise: E-M:1-13

LO 2. Classify costs used in managerial accounting

a) Manufacturing companies

b) Direct and indirect costs

c) Manufacturing costs

- Exhibit M:1-5: Manufacturing Costs

d) Prime and conversion costs

- Exhibit M:1-6: Prime and Conversion Costs

e) Product and period costs

- Exhibit M:1-7: Period Versus Product Costs
- Exhibit M:1-8: Period and Product Costs for Smart Touch Learning

Lecture Notes: Point out the distinction between direct and indirect manufacturing costs. Direct costs are added to WIP, whereas indirect costs are usually collected in one or more Manufacturing Overhead accounts and then applied to WIP using a predetermined overhead rate. Therefore, when materials are used, you must know whether they are indirect or direct. When labor is incurred, you must know whether it is direct or indirect. The recording of labor in an asset account (WIP) may need additional explanation. Students might want to expense labor because it was expensed in previous chapters. Remind students that manufacturing companies add all product costs to inventory, and they are expensed (COGS) when inventory is sold.

Distinguish between product costs and period costs. GAAP requires that all manufacturing costs be treated as costs of making the product, which means these manufacturing costs (raw materials, manufacturing labor, and manufacturing overhead) are "attached" to the product. All nonmanufacturing costs go directly to the income statement in the period in which they occur. Consider an oversimplified company that has a factory in your local community and corporate offices in New York City (or some other major urban center). Everything that goes on at the factory in your local community is a manufacturing cost that becomes attached to the product by accumulating those costs in WIP. Everything that goes on in the corporate offices is a period cost that is charged directly to the income statement in the period in which it occurs. While this is an oversimplification (for example, sales offices or research labs can be located in a factory setting), it serves to fix the distinction in students' minds.

Overhead includes all manufacturing costs other than direct materials and direct labor. Therefore, students must know whether a cost is manufacturing or nonmanufacturing. For example, "depreciation" will no longer suffice. Is it manufacturing or nonmanufacturing? As discussed for labor above, students may want to expense all indirect costs, such as depreciation, insurance, etc., because they were expensed in previous chapters. Remind students that manufacturing companies add all product costs to inventory—first to WIP, which is transferred to FG, and then as COGS when inventory is sold.

Suggested In-Class Exercise: E-M:1-15

LO 3. Prepare financial statements for a manufacturer, including a balance sheet, income statement, and schedule of cost of goods manufactured

a) Balance sheet

- Exhibit M:1-9: Balance Sheet Comparison

b) Income statement

- Exhibit M:1-10: Income Statement Comparison

c) Flow of product costs in a manufacturing company

- Exhibit M:1-11: Flow of product Costs in a Manufacturing Company

d) Calculating cost of goods manufactured

i. Step 1: Calculate direct materials used.

ii. Step 2: Calculate total manufacturing costs incurred during the year.

iii. Step 3: Calculate cost of goods manufactured.

- Exhibit M:1-12: Schedule of Costs of Goods Manufactured

e) Calculating cost of goods sold

- Exhibit M:1-13: Income Statement—Manufacturing Company

f) Flow of product costs through the inventory accounts

- Exhibit M:1-14: Flow of Product Costs Through Smart Touch Learning's Inventory Accounts

g) Using the schedule of cost of goods manufactured to calculate unit product cost

Lecture Notes: Emphasize that management accounting concepts apply to all types of companies, not just manufacturing companies. Much attention is focused on manufacturing businesses because they are more complex and less familiar. Nonetheless, the product costing concepts discussed in relation to manufacturing can be applied to service costing and activity costing in the other types of companies.

Students will probably be able to relate to service companies and merchandising companies (such as auto repair shops and grocery stores) more easily than they can relate to manufacturing companies. Service companies and merchandising companies have already been discussed in the textbook. It may be helpful to ask students to provide examples of each type of company, especially merchandising and manufacturing, to assess their knowledge of the differences. Ask if anyone has toured a factory when it is operating.

When introducing inventory accounts, remind students how the Merchandise Inventory account works. Merchandise is purchased (increase Merchandise Inventory with a debit). Then when the inventory is sold, take it out of Merchandise Inventory and off the balance sheet (decrease Merchandise Inventory with a credit) and charge it to the income statement as the expense Cost of Goods Sold (increase the expense with a debit). If more merchandise is purchased than sold, the difference remains in Merchandise Inventory as the ending balance and is reported as an asset on the balance sheet. It then becomes next period's beginning inventory. Emphasize the basic generic inventory relationship:

Beginning + Additions – Ending balance = Amount used, manufactured, or sold

Manufacturers have three inventory accounts: Raw Materials Inventory (RM), Work-in-Process Inventory (WIP), and Finished Goods Inventory (FG). All three are assets on the balance sheet. Inventory is removed from FG and from the balance sheet when sold and then charged to the income statement as the expense Cost of Goods Sold (COGS). The WIP account is an accumulation account that collects product costs as they are added in the production process—direct materials, direct labor, and manufacturing overhead. Explain that WIP represents the product as it is being assembled on the factory floor. After the product comes off the production line and is boxed up and moved to the finished product warehouse, the related dollars are taken out of the WIP account and moved to the FG account.

Demonstrate that inventory accounts all function in the same way as the generic inventory account previously discussed:

Beginning balance + Additions – Ending balance = Amount used, manufactured, or sold

Point out that the increases in WIP represent the accumulation of direct materials, direct labor, and manufacturing overhead costs that become attached to the product being assembled.

Suggested In-Class Exercises: E-M:1-16, E-M:1-17, and E-M:1-18

LO 4. Describe business trends affecting managerial accounting

a) Shift toward a service economy

b) Global competition

c) Time-based competition

d) Advances in technology

e) Total quality management

- Exhibit M:1-15: Value Chain

f) The triple bottom line

Suggested In-Class Exercise: E-M:1-22

LO 5. Describe how managerial accounting is used in service and merchandising companies

a) Calculating cost per service

b) Calculating cost per item

Suggested In-Class Exercise: E-M:1-24, E-M:1-25

Chapter 1: Handout for Student Notes

LO 1. Why is managerial accounting important?

- Manager's role in the organization
- Managerial accounting functions
- Ethical standards of managers

LO 2. How are costs classified?

- Manufacturing companies
- Direct and indirect costs
- Manufacturing costs
- Prime and conversion costs
- Product and period costs

LO 3. How do manufacturing companies prepare financial statements?

- Balance sheet
- Income statement

- Flow of product costs in a manufacturing company
- Calculating cost of goods manufactured
- Calculating cost of goods sold
- Flow of product costs through the inventory accounts
- Using the schedule of costs of goods manufactured to calculate unit product cost

LO 4. What are business trends that are affecting managerial accounting?

- Shift toward a service economy
- Global competition
- Time-based competition
- Advances in technology
- Total quality management
- The triple bottom line

LO 5. How is managerial accounting used in service and merchandising companies?

- Calculating cost per service

- Calculating cost per item

Chapter 1: Student Chapter Summary

LO 1. Define managerial accounting and understand how it is used

Financial accounting prepares reports for external users, such as investors, creditors, and government agencies. Managerial accounting provides information for internal managers, such as department heads, division managers, chief executive officers, and vice presidents. This managerial accounting data helps managers plan, direct, control, and make decisions about the business. Managerial accountants may obtain professional certifications, such as Certified Management Accountant (CMA) or Chartered Global Management Accountant (CGMA). The IMA Standards of Ethical Professional Practice include competence, confidentiality, integrity, and credibility.

LO 2. Classify costs used in managerial accounting

Direct costs can be easily traced directly to a cost object, whereas indirect costs cannot. Manufacturing costs, also known as product costs, are all costs incurred in the manufacture of final products. The three categories of manufacturing costs are direct materials, direct labor, and manufacturing overhead. Prime costs are direct materials and direct labor. Conversion costs are direct labor and manufacturing overhead. Product costs are first recorded as inventory and are not expensed until the product is sold. Period costs are all costs not considered product costs. Period costs are expensed in the accounting period incurred.

LO 3. Prepare financial statements for a manufacturer, including a balance sheet, income statement, and schedule of cost of goods manufactured

Manufacturers have three inventory accounts: Raw Materials Inventory (RM), Work-in-Process Inventory (WIP), and Finished Goods Inventory (FG). All three are assets on the balance sheet. Inventory costs are removed from FG and from the balance sheet when the product is sold and then charged to the income statement as the expense Cost of Goods Sold (COGS). The WIP account is an accumulation account that collects product costs as they are added in the production process—direct materials, direct labor, and manufacturing overhead. WIP represents the cost of the product as it is being assembled on the factory floor. After the product comes off the production line and is boxed up and moved to the finished product warehouse, the related dollars are taken out of the WIP account and moved to the FG account.

Calculating cost of goods manufactured and cost of goods sold requires knowledge of how product costs flow through a manufacturing company. Cost of goods manufactured is calculated in three steps:

Step 1: Calculate direct materials used.

Step 2: Calculate total manufacturing costs incurred during the year.

Step 3: Calculate cost of goods manufactured.

Cost of goods sold represents the cost of the Finished Goods Inventory that has been sold. All inventory accounts function in the same way:

Beginning balance + Additions – Ending balance = Amount used, manufactured, or sold

LO 4. Describe business trends affecting managerial accounting

The shift toward a service economy, global competition, time-based competition, advances in technology, Total Quality Management (TQM), and the triple bottom line are business trends affecting managerial accounting today. Managers in the service industry need to understand the cost of providing services, supporting customers, and planning for future customer and service needs. Companies are moving operations to other countries to be closer to new markets or partnering with foreign companies to meet local needs. Companies have also developed the time-saving responses to keep up with the pace of business in the instant messaging age, such as advanced information systems, e-commerce, and just-in-time management. Recent advances in technology can provide businesses with a competitive advantage. Software tools allow accountants to work with information technology teams to analyze large quantities of data and use the analysis to make more-informed decisions, while robotic process automation (RPA) and artificial intelligence (AI) use technology to improve operational efficiency and decrease costs. TQM is a philosophy of continuous improvement of products and processes leading to fewer defects and higher customer satisfaction. Companies are also recognizing that they have multiple responsibilities—economic, social, and environmental—and that generating profits for owners and investors is only one aspect of being a socially responsible organization.

LO 5. Describe how managerial accounting is used in service and merchandising companies

Managerial accounting isn't just for manufacturing companies. Service companies and merchandising companies also use managerial accounting.

- Unit cost per service = Total operating costs / Total number of services provided
- Unit cost per item = Total cost of goods sold / Total number of items sold

Chapter 1: Assignment Grid and Other Materials

	LO 1	LO 2	LO 3	LO 4	LO 5
S-M:1-1	X				
S-M:1-2	X				
S-M:1-3		X			
S-M:1-4		X			
S-M:1-5		X			
S-M:1-6			X		
S-M:1-7			X		
S-M:1-8			X		
S-M:1-9			X		
S-M:1-10			X		
S-M:1-11				X	
S-M:1-12					X
E-M:1-13	X				
E-M:1-14	X				
E-M:1-15		X			
E-M:1-16			X		
E-M:1-17			X		
E-M:1-18			X		
E-M:1-19			X		
E-M:1-20			X		
E-M:1-21			X		
E-M:1-22				X	
E-M:1-23				X	
E-M:1-24			X		X
E-M:1-25			X		X
P-M:1-26A, P-M:1-34B	X				
P-M:1-27A, P-M:1-35B		X			
P-M:1-28A, P-M:1-36B			X		
P-M:1-29A, P-M:1-37B			X		
P-M:1-30A, P-M:1-38B			X		
P-M:1-31A, P-M:1-39B			X		
P-M:1-32A, P-M:1-40B			X		X
P-M:1-33A, P-M:1-41B			X		X

S – Short Exercises (*Easy*)
E – Exercises (*Moderate*)
P – Problems (*Difficult*)

Other End-of-Chapter Materials:

Continuing Problem P-M:1-42
Tying It All Together Case 1-1
Decision Case 1-1
Ethical Issue 1-1
Communication Activity 1-1

CHAPTER 1
TEN-MINUTE QUIZ

Circle the letter of the best response.

1. Which of the following is a characteristic of managerial accounting information?
   A. Provides information that is useful to external decision makers
   B. Usually reported on a quarterly or annual basis
   C. Not required to follow GAAP
   D. Focuses on past results

2. Which of the following is a software system representing an advance in technology used to analyze large quantities of data for more-informed decisions?
   A. Enterprise Value Chain
   B. Tableau
   C. Advanced information systems
   D. Just-in-time management systems

3. Which of the following characteristics of today's business environment is most closely associated with the philosophy of continuous improvement?
   A. Global competition
   B. Total Quality Management
   C. Time-based competition
   D. E-commerce

4. Which of the following accounts is used by a manufacturing company but not by a service company?
   A. Cost of Goods Sold
   B. Salaries Payable
   C. Supplies Expense
   D. Retained Earnings

5. Goods available for sale that are *not* part of Cost of Goods Sold are included in
   A. Work-in-Process Inventory beginning balance.
   B. Work-in-Process Inventory ending balance.
   C. Finished Goods Inventory beginning balance.
   D. Finished Goods Inventory ending balance.

6. Which of the following is an indirect cost of manufacturing a car?
   A. Salary of an assembly line worker who assembles the cars
   B. Salary of the plant supervisor who plans the factory production schedule
   C. Cost of a car engine
   D. Cost of a car door

7. Which of the following is a product cost?
   A. Advertising expense
   B. Insurance on plant and equipment in the factory
   C. Depreciation on computer equipment at the corporate headquarters
   D. Sales commissions

Questions 8 and 9 use the data in the following table, which has been provided by a bakery:

Beginning Direct Materials	$ 6,000
Ending Direct Materials	9,000
Beginning Work-in-Process Inventory	12,000
Ending Work-in-Process Inventory	17,000
Beginning Finished Goods Inventory	3,000
Ending Finished Goods Inventory	5,000
Manufacturing Overhead	21,000
Direct labor	30,000
Direct materials used in production	95,000

8. What is cost of direct materials purchased?
   A. $ 3,000
   B. $ 92,000
   C. $ 98,000
   D. $110,000

9. What is the cost of goods manufactured?
   A. $125,000
   B. $141,000
   C. $146,000
   D. $151,000

10. A management accountant who communicates information fairly and objectively is practicing the ethical standard of
   A. integrity.
   B. confidentiality.
   C. competence.
   D. credibility.

Answer Key to Ten-Minute Quiz:

1. C

2. B

3. B

4. A

5. D

6. B

7. B

8. C

Beginning Direct Materials	$ 6,000
Purchases of Direct Materials	?
Direct Materials Available for Use	?
Ending Direct Materials	(9,000)
Direct Materials Used	$ 95,000

Direct Materials Available for Use = Direct Materials Used + Ending Direct Materials
= $95,000 + $9,000 = $104,000
Purchases of Direct Materials = Direct Materials Available for Use – Beginning Direct Materials
= $104,000 − $6,000 = $98,000

9. B

Beginning Work-in-Process Inventory		$ 12,000
Direct Materials Used	$ 95,000	
Direct Labor	30,000	
Manufacturing Overhead	21,000	
Total Manufacturing Costs Incurred during the Period		146,000
Total Manufacturing Costs to Account For		158,000
Ending Work-in-Process Inventory		(17,000)
Cost of Goods Manufactured		$ 141,000

10. D

Extra Critical Thinking Questions

Decision Case 16-2
The IMA's Statement of Ethical Professional Practice can be applied to more than just managerial accounting. It is also relevant to college students.

Explain at least one situation that shows how each IMA standard in Exhibit M:1-4 is relevant to your experiences as a student. For example, the ethical standard of competence would suggest not cutting classes!

Decision Case 16-2: Solution

Students' responses will vary. Illustrative answers follow:

- *Competence*. Students have a responsibility to build their professional competence by attending classes, conscientiously completing homework, and studying for exams.
- *Confidentiality*. When friends or family members share intimate information or highly personal information, you should respect the trust they have placed in you and keep that information confidential, as is appropriate for the situation.
- *Integrity*. Students have a responsibility to act with integrity and not to cheat. Students also should help ensure the integrity of the process. For example, students should inform the instructor if they suspect other students have a copy of an upcoming exam.
- *Credibility*. Be honest and straightforward when communicating with others. Do not lie or deliberately mislead others.

Fraud Case 1-1

Juan Gomez was the fastest-rising star of a small CPA firm in West Palm Beach, Florida. Most of his clients traveled in stratospheric circles of wealth, and Juan knew that fitting in with this crowd was essential to his career. Although he made good money, it wasn't enough to live that kind of lifestyle. Meanwhile, Juan had become friends with one of his clients, Tony Russo. Knowing Russo's books inside and out and being on close terms with him, Juan asked Tony for a personal loan. Juan was sure he'd be able to pay it back when he got his next bonus, but things stretched out, and additional loans were made. Two years later, Tony's company hit some losses, and the numbers were looking grim. Tony reminded Juan that it would not look good for his career if his CPA firm knew Juan had borrowed from a client, and so Juan changed a few numbers and signed off on clean financials for Tony's firm. This went on for three years, until one morning when Juan got a call. Russo had died; his sons had gone through the books, and the whole scheme came out. Juan did some prison time and lost his license, but he was repentant and made an instructional video for accounting students to warn them of the temptations they may encounter in the real world of business.

Requirements

1. Although the central character of this story worked in public accounting, please refer to the IMA Statement of Ethical Professional Practice in Exhibit M:1-4 and discuss which of those issues are reflected in this case.
2. Could Juan have removed himself from his situation? How?

Fraud Case 1-1: Solution

Students' responses will vary. Illustrative answers follow.

Requirement 1

This case reflects a clear conflict of interest in that Juan Gomez, as a public accountant, was supposed to be independent of his client but was, in fact, financially involved. This is a clear violation of *integrity*. It also involves the issue of *credibility*, in that Juan "cooked the books" for his client and thus sanctioned the publication of false financial information.

Requirement 2

Juan would first have to pay back the loan he took from his client. Then he would have to remove himself from the engagement with this client, admit his actions, and possibly resign from his firm because the falsified financial information would become apparent to whomever followed Juan on the engagement. These actions might, or might not, shield Juan from criminal or civil prosecution. The bottom line is that once Juan took the money, his career was in irreversible jeopardy.

Team Project 1-1

Search the Internet for a nearby company that has a Web site. Arrange an interview for your team with a managerial accountant, a controller, or another accounting/finance officer of the company.

Requirements

Before your team conducts the interview, answer the following questions:

1. Is this a service, merchandising, or manufacturing company? What is its primary product or service?
2. Is the primary purpose of the company's Web site to provide information about the company and its products, to sell online, or to provide financial information for investors?
3. Are parts of the company's Web site restricted so that you need password authorization to enter? What appears to be the purpose of limiting access?
4. Does the Web site provide an e-mail link for contacting the company?

At the interview, begin by clarifying your team's answers to Questions 1 through 4 and ask the following additional questions:

5. If the company sells over the Internet, what benefits has the company derived? Did the company perform a cost/benefit analysis before deciding to begin Web sales?
   Or
   If the company does not sell over the Internet, why not? Has the company performed a cost/benefit analysis and decided not to sell over the Web?
6. What is the biggest cost of operating the Web site?
7. Does the company make any purchases over the Internet? What percentage?
8. How has e-commerce affected the company's managerial accounting system? Have the managerial accountant's responsibilities become more or less complex? More or less interesting?
9. Does the company use Web-based accounting applications, such as accounts receivable or accounts payable?
10. Does the company use an ERP system? If so, do managers view the system as a success? What have been the benefits? The costs?

Your team should summarize your findings in a short paper. Provide any exhibits that enhance your explanation of key items. Provide proper references and a works cited page.

Team Project 1-1: Solution

Students' responses will vary. However, following are some observations.

The person interviewed could be identified through a connection of one of the students, a connection made by the instructor, or a connection through the school.

Requiring students to answer the first four questions before the interview will help ensure that they are prepared for the interview. It is important that students be prepared so they can make a favorable impression on the interviewee (for the school and future employment!) and so they do not waste the interviewee's time. If the company is of any reasonable size, students should be able to gather information from the library or the Internet.

While it would be unusual for a company not to have a Web site, the role of its Web site in the company's business plan can vary significantly. The site may simply provide information about the company and/or its products and, for a manufacturer, a dealer locator. Other Web sites are designed to sell products. Certain Web pages may be designed for sales to the general public, while other parts of the site may require a password and offer sales to specific customers on prearranged terms. The Web site might not give a full indication of the extent to which a company relies on the Internet. For example, a company may rely on the Internet for purchasing, budgeting, or communicating within the firm.

Increasing dependence on the Internet has implications for management accounting. A full-featured Web site may cost millions of dollars, so the CFO will likely be involved in the investment decision and in monitoring and evaluating the success of this investment. Management accountants will collect and analyze new types of data, such as the number of unique customers at the company's Web site and the length of time each customer spends at the site.

Accounting applications also may follow the underlying transactions to the Web. For example, when a company moves business-to-business sales to the Web, it also may adopt Internet-based receivables management software to reduce billing costs and speed up collection. The company also may install an ERP system to further integrate and speed up its transaction processing.