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SOLUTIONS MANUAL

FOR

Principles of Cost Accounting

16th Edition
By Vanderbeck
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INSTRUCTOR'S SOLUTIONS MANUAL

to accompany

PRINCIPLES OF COST ACCOUNTING

Sixteenth Edition

Edward J. VanDerbeck
Professor Emeritus; Xavier University

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CHAPTER 1

QUESTIONS

1. The function of cost accounting is to provide the cost accounting information that is the basis for planning and controlling current and future operations. It provides the cost figures and analyses that management needs in order to find the most efficient methods of operating, achieving control of costs, and determining selling prices.

2. *Originally issued* for companies marketing products in Europe, a set of international standards for quality management, known as the ISO 9000 family, was designed by the International Organization for Standardization. Obtaining ISO 9000 is important because many companies will only contract with ISO 9000 suppliers.

3. A company meeting the requirements of ISO 14000 has an environmental management system that (1) identifies and controls the environmental impact of its activities, products, or services, (2) improves its environmental performance continually, and (3) implements a systematic approach to setting environmental objectives and targets.

4. Reasons given by U.S. companies for "reshoring" their manufacturing operations include (1) Chinese wages and shipping costs have risen sharply in the past few years, (2) frustration with the sometimes poor quality of goods made by foreign contractors, (3) the desire to bring production managers and assembly-line workers closer to engineers, suppliers, and customers, (4) an effort to protect a company's intellectual property, and (5) weariness from midnight phone calls and multiple annual trips to Asian producers.

5. Manufacturers convert purchased materials into finished goods by using labor, technology, and facilities. Merchandisers purchase completed products for resale. Service businesses or agencies sell or provide services rather than products.

6. A manufacturer differs from a merchandiser in these ways:

a. The merchandiser buys items to sell while the manufacturing business must make the items it markets.

b. Usually the manufacturer has a greater investment in physical facilities.

c. The manufacturer will incur some costs peculiar to this type of industry, such as machine maintenance, materials handling, and inspection of manufactured goods.

The two types of operations are similar in that they are both concerned with purchasing, storing, and selling goods; they must have efficient management and adequate sources of capital; and they may employ many workers.

7. *Cost accounting information* is used by management in the following ways:

a. Determining product costs which are necessary for: determining cost of goods sold and valuing inventories; determining product selling price; meeting competition; bidding on contracts; and analyzing profitability.

b. Planning by providing historical costs that serve as a basis for projecting data.

c. Controlling operations by providing cost data that enable management to periodically measure results, to take corrective action where necessary, and to search for ways to reduce costs.

8. *Unit cost information* is important to management because the unit costs of one period can be compared with those of other periods, and significant trends can be identified and analyzed. Unit costs are also used in making important marketing decisions related to selling prices, competition, bidding,

9. For a manufacturer, the planning process involves the selection of clearly defined objectives of the manufacturing operation and the development of a detailed program to guide the organization in reaching the objectives. Cost accounting provides historical cost information that is used as the basis for planning future operations.

10. In a manufacturing concern, effective control is achieved in the following ways:

a. Responsibility must be assigned for each detail of the master production plan.

b. There must be a periodic measurement of the actual results as compared with predetermined objectives.

c. Management must take corrective action as necessary to improve or eliminate inefficient and unprofitable operations.

11. *Responsibility accounting* is the assigning of accountability for costs or production results to those individuals who have the authority to influence costs or production. It involves an information system that traces these data to the managers who are responsible for them.

12. The criteria for a *cost center* are:

- **a.** A reasonable basis on which manufacturing costs can be allocated.
- **b.** A person who has control over and is accountable for many of the costs

13. The requirements for becoming a CMA include a four-year college degree, two years of relevant work experience, and passing a rigorous two-day examination.

14. The four major categories of ethical conduct that must be adhered to by management accountants include competence, confidentiality, integrity, and objectivity.

15. The steps that should be taken by the management accountant include:

- **a.** Discuss the problem with the immediate supervisor except when it appears that the supervisor is involved, in which case it should be taken to the next higher management level.
- **b.** Clarify relevant ethical issues by confidential discussion with an objective advisor.
- **c.** Consult your own attorney as to legal obligations and rights.
- **d.** If the ethical issue still exists after exhausting all levels of internal review, there may be no other recourse on significant matters than to resign from the organization.

16. *Corporate governance* is the means by which a company is directed and controlled. Good corporate governance is important to all stakeholders because, due to recent accounting scandals, the need for ethical conduct in managing corporate affairs has never.

17. The recent accounting scandals where management, including controllers and chief financial officers, has "cooked the books" to make reported financial results seem better than actual created the need for the Sarbanes-Oxley Act. To help curb future abuses the act holds CEO's and CFO's accountable for the accuracy of their firms' financial statements.

18. Key elements of the *Sarbanes-Oxley Act* include: certification by the CEO and CFO that the financial statements fairly reflect the results of operations; the establishment of the Public Company Accounting Oversight Board to provide oversight of the accounting profession; prohibiting a public accounting firm from providing many nonauditing services to a company that it audits; requiring that a company's annual report contain management's opinion on the effectiveness of its internal controls; placing the responsibility for hiring, compensating, and terminating the audit firm in the hands of the board of director's audit committee; criminal penalties for the destruction or alteration of business documents and for retaliating against "whistleblowers."

19. *Financial accounting* focuses upon financial statements which meet the decision-making needs of external parties, such as investors, creditors, and governmental agencies, and to some extent the needs of management. *Management accounting* focuses on both historical and estimated data that management needs to conduct ongoing business operations and do long-range planning. *Cost accounting* includes those parts of both finan-cial and management accounting that collects and analyzes cost information. It provides the product cost data required for special reports to management (manage-ment accounting) and for inventory costing in the financial statements (financial accounting).

20. With regard to methods for computing the cost of goods sold, the difference between a manufacturer and a merchandiser is in the determination of the cost of goods available for sale. Since the manufacturing business makes the products it has availa-ble for sale, the cost of goods manufac-tured must be determined and added to beginning finished goods inventory to de-termine the cost of finished goods available for sale. Since the merchandiser purchases rather than makes goods to sell, the cost of purchases is added to beginning merchan-dise inventory to compute the cost of goods available for sale.

21. **Finished Goods—**this is an inventory account reflecting the total cost incurred in manufacturing goods on hand that are ready for sale to customers.

Work in Process—this inventory account includes all of the costs incurred to date in manufacturing goods that are not yet completed.

Materials—this account represents the cost of materials on hand that will be used in the manufacturing process.

22. Manufacturers, such as aircraft producers and home builders, make tangible products by applying labor and technology to raw materials. They may have as many as three inventory accounts: Finished Goods, Work in Process, and Raw Materials. Merchandisers, such as wholesalers and department stores, purchase tangible products in finished form from suppliers. They have only one inventory account, Merchandise Inventory. Service businesses, such as airlines and sports franchises, provide intangible benefits such as transportation and entertainment. They have no inventory account.

23. A *perpetual inventory system* involves maintaining a continuous record of purchases, issues, and new balances of all goods in stock. Under a *periodic inventory system* no attempt is made to record the cost of merchandise sold at the time of sale. At the end of the accounting period a physical inventory is taken for the purpose of determining the cost of goods sold and the ending inventory.

24. The basic elements of production cost are:

- **a.** Direct materials.
- **b.** Direct labor.
- **c.** Factory overhead.

25. **Direct materials—**the cost of those materials which become part of the item being manufactured and can be readily identified with it.

Indirect materials—the cost of those items which are necessary for the manufacturing process but cannot be identified specifically with any particular item manufactured, and the cost of those materials which do become a part of the manufactured product but whose cost is too insignificant to track to individual jobs.

Direct labor—the labor cost for employees who work directly on the product manufactured.

Indirect labor—the cost of labor for those employees who are required for the manufacturing process but who do not work directly on the item being manufactured.

Factory overhead—includes all costs related to the manufacturing process except direct materials and direct labor, such as indirect materials, indirect labor, and all other factory expenses.

26. As manufacturing processes have become increasingly automated, direct labor cost as a percentage of total product cost has decreased for many companies. In the case of Harley-Davidson, it was only 10% of product cost but required an inordinate amount of time to trace directly to the products being manufactured.

27. *Prime cost* is the cost of direct materials and direct labor; it represents cost specifically identified with the product.

Conversion cost is the cost of direct labor and factory overhead; it is the expense incurred to convert raw materials into finished goods.

No, one of the component costs, direct labor, would be added twice. The cost of manufacturing includes direct materials, direct labor, and factory overhead. Both prime cost and conversion cost include the cost of direct labor.

28. Costs for direct materials and direct labor are charged directly to the work in process account, while the factory overhead costs are first accumulated in the factory overhead account and are then transferred to the work.

29. *Cost of goods sold* represents the total manufacturing cost of the goods *sold* during a given accounting period, while the *cost of goods manufactured* represents the total manufacturing cost of all goods that were *finished* during the accounting period.

30. *Non-factory costs* are charged to selling or general administrative expense accounts and do not affect the determination of manufacturing costs. Costs which benefit both factory and non-factory operations must be allocated in some equitable manner.

31. A *mark-on percentage* is a percentage of the total manufacturing cost that is added to the manufacturing cost to establish a selling price that covers the product's share of selling and administrative expenses and earns a satisfactory profit.

32. *Job order costing* is appropriate when the output of an enterprise consists of custom-made or specially ordered goods. Manufacturers such as machine shops and shipbuilders, merchandisers such as computer retailers, and service firms, such as CPAs and architects, all use job order costing.

33. *Process costing* is appropriate when an enterprise's operations involve the continuous or mass production of large quantities of homogeneous items. Manufacturers such as chemical producers and candy makers, merchandisers such as newspapers and agricultural wholesalers, and services such as hospital X-ray departments and airlines all use process costing.

34. An advantage of accumulating costs by departments (process costing) or by jobs (job order costing) is that the information provided aids management in achieving control of costs. With a process cost system, management can make departmental comparisons of current period costs with prior period costs and can take corrective action as needed. If costs were accumulated for the factory as a whole, management would have difficulty identifying specific sources of excessive costs and inefficiencies. The information provided by a job order cost system aids management in the determination of selling prices, the profit on each job, and costs applicable to similar jobs produced in future periods.

35. A *job cost sheet* is a form on which all of the individual costs applicable to a job are recorded. Since the job cost sheets show detailed costs and gross profit for each job, they are useful to management in bidding on similar jobs in the future.

36. *Standard costs* are reasonably attainable costs which are estimated by management in advance of production. Standard costs are then compared with actual costs, and differences called variances are calculated and analyzed. A standard cost system is not a separate cost accounting system but is applied in conjunction with either process costing or job order costing to increase cost control effectiveness.

37. Square footage occupied by each of the areas would be a good cost allocation base to use in allocating the depreciation expense between the factory operations and the selling and administrative function. This distinction is important because the depreciation allocated to factory operations is a manufacturing expense that becomes part of inventory cost and eventually cost of goods sold, whereas the portion allocated to selling and administrative expense is a period cost that is always expensed in the period incurred.

EXERCISES

E1-1

The variances for kitchen wages and utilities were favorable for September, whereas the variances for food and supplies were unfavorable. On a year-to-date basis, the only expense that did not have the same pattern as September was utilities which had a $120 F variance for the month, but an $850 U year-to-date variance.

E1-2

No, the performance report should not be prepared just once a year. It should be furnished to managers at regular intervals, in this case monthly, on a timely basis. If it is not provided in a timely fashion, it will not be effective in controlling future operations.

E1-3

Merchandise inventory, January 1	$ 22,000
Plus purchases	183,000
Merchandise available for sale	$ 205,000
Less merchandise inventory, January 31	17,000
Cost of goods sold	$ 188,000

E1-4

Finished goods, July 1	$ 85,000
Plus cost of goods manufactured	343,000
Finished goods available for sale	$ 428,000
Less finished goods, July 31	93,000
Cost of goods sold	$ 335,000

E1-5

	Items	Direct Materials	Direct Labor	Factory Overhead	Selling & Admin. Expense
a.	Steel used in an overhead door plant	✓			
b.	Cloth used in a shirt factory	✓			
c.	Fiberglass used by a sailboat builder	✓			
d.	Cleaning solvent for the factory floor			✓	
e.	Wages of .... abinderemployedina printing plant		✓		
f.	Insurance on factory machines			✓	
g.	Rent paid for factory buildings..........			✓	
h.	Wages of the Machining Department supervisor			✓	
i.	Leather used in a shoe factory	✓			
j.	Wages of a factory janitor			✓	
k.	Electric power consumed in operating factory machines			✓	
l.	Depreciation on corporate offices				✓
m.	Fuel used in heating a factory			✓	
n.	Paint used in the manufacture of jet skis ……....................................	✓			
o.	Wages of an ironworker in the construction business		✓		
p.	Electricity used in lighting sales offices				✓

E1-6

When direct materials and supplies are purchased, the materials account is debited. When direct materials and supplies are issued to the factory, the materials account is credited, Work in Process is debited for the cost of the direct materials, and the factory overhead account is debited for the cost of indirect materials.

When labor costs are distributed, the payroll account is credited, Work in Process is debited for the cost of direct labor, and Factory Overhead is debited for the cost of indirect labor.

As other costs related to manufacturing are recorded, the factory overhead account is charged. The debit to Work in Process for factory overhead is made by allocating overhead expenses to this account. At the same time, the factory overhead account is credited. The total cost of goods completed is recorded by debiting Finished Goods and crediting Work in Process. When units are sold, Cost of Goods Sold is debited and Finished Goods is credited.

E1-7

Valley View Manufacturing Co. Statement of Cost of Goods Manufactured For the Month Ended January 31, 20—

a. Materials:		
Inventory, January 1	$25,000	
Purchases	21,000	
Total cost of available materials	$46,000	
Less inventory, January 31	22,000	
Cost of materials used	$24,000	
Less indirect materials used	1,000	
Cost of direct materials used in production		$ 23,000
Direct labor		18,000
Factory overhead:		
Indirect materials	$ 1,000	
Indirect labor	3,000	
Other	8,000	
Total factory overhead		12,000
Total manufacturing cost		$ 53,000
Add work in process inventory, January 1		24,000
		$ 77,000
Less work in process inventory, January 31		20,000
Cost of goods manufactured		$ 57,000
b. Finished goods inventory, January 1	$32,000	
Add cost of goods manufactured	57,000	
Goods available for sale	$89,000	
Less finished goods inventory, January 31	30,000	
Cost of goods sold	$59,000	

E1-8

Viejas Manufacturing Co.
Statement of Cost of Goods Manufactured
For the Month Ended January 31, 20—

a. Materials:

Inventory, January 1	$22,000	
Purchases	18,000	
Total cost of available materials	$40,000	
Less inventory, January 31	25,000	
Cost of materials used	$15,000	
Less indirect materials used	1,000	
Cost of direct materials used in production		$ 14,000
Direct labor		21,000
Factory overhead:		
Indirect materials	$ 1,000	
Indirect labor	4,000	
Other	11,000	
Total factory overhead		16,000
Total manufacturing cost		$ 51,000
Add work in process inventory, January 1		20,000
		$ 71,000
Less work in process inventory, January 31		24,000
Cost of goods manufactured		$ 47,000

b.

Finished goods inventory, January 1	$30,000
Add cost of goods manufactured	47,000
Goods available for sale	$77,000
Less finished goods inventory, January 31	32,000
Cost of goods sold	$45,000

E1-9

a.	Direct materials used during the period		$ 205,000
	Add inventory of direct materials at the end of the period .		95,000
	......................Directmaterialsavailableduringtheperiod		$ 300,000
	Less inventory of direct materials at the beginning of the period		90,000
	....................Directmaterialspurchasedduringtheperiod		$ 210,000
b.	Total manufacturing costs incurred during the period		$ 675,000
	Less: Direct materials used	$ 205,000	
	Factory overhead incurred	175,000	380,000
	.....................Directlaborcostsincurredduringtheperiod		$ 295,000
c.	Cost of goods available for sale		$ 775,000
	Less finished goods inventory at the end of the period		75,000
	................................Costofgoodssoldduringtheperiod		$ 700,000
d.	Sales		$ 900,000
	Costs of goods sold		700,000
	....Grossprofit		$ 200,000

E1-10

Work in Process (Direct Materials)	21,000	
Factory Overhead (Indirect Materials)	5,000	
Materials		26,000
Work in Process (Direct Labor)	15,000	
Factory Overhead (Indirect Labor)	3,000	
Payroll		18,000
Factory Overhead	7,200	
Accounts Payable (or Prepaid Rent)		4,000
Accounts Payable (Utilities)		1,200
Accounts Payable (or Prepaid Insurance)		500
Accumulated Depreciation—Machinery and Equipment		1,500
Work in Process..	15,200	
Factory Overhead...		15,200
($5,000+$3,000+$7,200)		

E1-11

a.

Work in Process—(Jobs1040, 1065, 1120)	7,780	
Materials		7,780
Work in Process—(Jobs 1040, 1065, 1120)	8,200	
Payroll		8,200
Work in Process—(Jobs 1040, 1065, 1120)	3,280	
Factory Overhead		3,280

b.

Jobs Completed	Direct Materials Cost	Direct Labor Cost	Factory Overhead	Total Production Cost
1040	$ 3,600	$ 4,000	$ 1,600	$ 9,200
1065	2,380	2,500	1,000	5,880
1120	1,800	1,700	680	4,180
Total	$ 7,780	$ 8,200	$ 3,280	$

c.

Finished Goods	19,260	
Work in Process—(Jobs1040, 1065, 1120)		19,260

d.

Unit Cost

Job 1040 ($9,200 ÷ 400)	$23.00
Job 1065 ($5,880 ÷ 240)	$24.50
Job 1120 ($4,180 ÷ 200)	$20.90

e.

Selling Price Per Unit

Job 1040 ($23.00 × 140%)	$32.20
Job 1065 ($24.50 × 140%)	$34.30
Job 1120 ($20.90 × 140%)	$29.26

E1-12

a.

Work in Process—(Jobs 1100, 1200, 1300)....................	10,800	
Materials		10,800
Work in Process—(Jobs 1100, 1200, 1300)....................	13,600	
Payroll		13,600
Work in Process—(Jobs 1100, 1200, 1300)....................	23,100	
Factory Overhead		23,100

b.

Jobs Completed	Direct Materials Cost	Direct Labor Cost	Factory Overhead	Total Production Cost
1100	$4,200	$5,000	$9,000	$18,200
1200	3,700	4,500	7,800	16,000
1300	2,900	4,100	6,300	13,300
Total	$10,800	$ [illegible]	$ 23,100	$47,500

c.

Finished Goods	47,500	
Work in Process—(Jobs1100, 1200, 1300).................		47,500

d.

Unit Cost

Job 1100 ($18,200 ÷ 500)	$36.40
Job 1200 ($16,000 ÷ 400)	$40.00
Job 1300 ($13,300 ÷ 300)	$44.33

e.

Selling Price Per Unit

Job 1100 ($36.40 × 150%)	$54.60
Job 1200 ($40.00 × 150%)	$60.00
Job 1300 ($44.33 × 150%)	$66.50

E1-13

a.	Work in Process	14,500	
	Factory Overhead (Indirect Materials)	1,200	
	Materials		15,700
b.	Work in Process	11,500	
	Factory Overhead (Indirect Labor)	900	
	Payroll		12,400
c.	Work in Process	9,500	
	Factory Overhead		9,500
d.	Finished Goods	27,500	
	Work in Process*		27,500

*Jobs completed:

Racers	$12,000
Cruisers	15,500
Total	$27,500

e.	Cost of Goods Sold	27,500	
	Finished Goods		27,500
	Accounts Receivable	49,000	
	Sales		49,000

PROBLEMS

P1-1

Saito's Sushi Bar Performance Report—Dining Room February 28, 2013

	Budgeted		Actual		Variance	
Expense	February	Year-to-Date	February	Year-to-Date	February	Year-to-Date
Dining room wages	$4,150	$8,450	$4,400	$9,100	$250U	$650U
Laundry and housekeeping	1,500	3,150	1,400	3,000	100F	150F
Utilities	2,050	4,250	2,100	4,450	50U	200U
Depreciation	1,500	3,000	1,500	3,000	----------	---------
Total	$9,200	$18,850	$9,400	$19,550	$200U	$700U

P1- 2

1. Merchandise inventory, April 1	$ 38,000
Plus purchases	121,000
Merchandise available for sale	$159,000
Less merchandise inventory, April 30	33,000
Cost of goods sold	$126,000

2. Finished goods, April 1	$ 67,000
Plus cost of goods manufactured	287,000
Finished goods available for sale	$354,000
Less finished goods, April 30	61,000
Cost of goods sold	$293,000

P1-3

1. Merchandise inventory, Sept. 1	$ 33,000
Plus purchases	111,000
Merchandise available for sale	$144,000
Less merchandise inventory, Sept. 30	38,000
Cost of goods sold	$106,000
2. Finished goods, Sept. 1	$ 61,000
Plus cost of goods manufactured	267,000
Finished goods available for sale	$328,000
Less finished goods, Sept. 30	67,000
Cost of goods sold	$261,000

P1-4

1.

Kokomo Furniture Company Statement of Cost of Goods Manufactured For the Month Ended November 30, 2013

Direct materials:		
Inventory, November 1	$ 0	
Purchases	33,000	
Total cost of available materials	$33,000	
Less inventory, November 30	7,400	
Cost of materials used	$25,600	
Less indirect materials used	1,400	
Cost of direct materials used in production		$ 24,200
Direct labor		18,500
Factory overhead:		
Indirect materials	$ 1,400	
Indirect labor	4,300	
Depreciation of building	3,000	
Depreciation of machinery and equipment	2,200	
Utilities	2,750	
Total factory overhead		13,650
Cost of goods manufactured during the month		$ 56,350

P1-4 Continued

2.

Kokomo Furniture Company
Income Statement
For the Month Ended November 30, 2013

Sales		$ 68,300
Cost of goods sold:		
Finished goods inventory, November 1	$ 0	
Add cost of goods manufactured	56,350	
Goods available for sale	$56,350	
Less finished goods inventory, November 30	13,900	42,450
Gross profit on sales		$ 25,850
Selling and administrative expenses......................................		15,200
Net income		$ 10,650

P1-4 Concluded

3.

Kokomo Furniture Company
Balance Sheet November 30, 2013

Assets			
Current assets:			
Cash			$ 21,800
Accounts receivable			16,200
Inventories:			
Finished goods..		$ 13,900	
Work in process		0	
Materials		7,400	21,300
Total current assets..			$ 59,300
Plant and equipment:			
Building	$300,000		
Less accumulated depreciation	3,000	$ 297,000	
Machinery and equipment	$ 88,000		
Less accumulated depreciation	2,200	85,800	
Total plant and equipment			382,800
Total assets			$
Liabilities and Stockholders' Equity			
Current liabilities:			
Accounts payable			$ 8,900
Stockholders' equity:			
Capital stock..		$422,550	
Retained earnings		10,650	
Total stockholders' equity			433,200
Total liabilities and stockholders' equity			$442,100

P1-5

1.

Terre Haute Plastics, Inc.
Statement of Cost of Goods Manufactured
For the Month Ended November 30, 2013

Direct materials:		
Inventory, November 1	$ 0	
Purchases	23,000	
Total cost of available materials	$23,000	
Less inventory, November 30	4,700	
Cost of materials used	$18,300	
Less indirect materials used	1,400	
Cost of direct materials used in production		$ 16,900
Direct labor		15,800
Factory overhead:		
Indirect materials	$ 1,400	
Indirect labor	6,010	
Depreciation of building	4,000	
Depreciation of machinery and equipment	1,650	
Utilities	2,750	
Total factory overhead		15,810
Cost of goods manufactured during the month		$48,510

2.

Terre Haute Plastics, Inc.
Income Statement
For the Month Ended June 30, 2013

Sales		$63,800
Cost of goods sold:		
Finished goods inventory, November 1	$ 0	
Add cost of goods manufactured	48,510	
Goods available for sale	$ 48,510	
Less finished goods inventory, November 30	19,300	29,210
Gross profit on sales		$34,590
Selling and administrative expenses		12,500
Net income		$22,090

P1-5 Concluded

Terre Haute Plastics, Inc.
Balance Sheet
November 30, 2013

Assets

Current assets:			
Cash			$ 18,200
Accounts receivable			12,600
Inventories:			
Finished goods		$ 19,300	
Work in process		0	
Materials		4,700	24,000
Total current assets			$ 54,800
Plant and equipment:			
Building	$400,000		
Less accumulated depreciation	4,000	$ 396,000	
Machinery and equipment	$ 66,000		
Less accumulated depreciation	1,650	64,350	
Total plant and equipment			460,350
Total assets			$ 515,150

Liabilities and Stockholders' Equity

Current liabilities:			
Accounts payable			$ 9,800
Stockholders' equity:			
Capital stock		$ 483,260	
Retained earnings		22,090	
Total stockholders' equity			505,350
Total liabilities and stockholders' equity			$ 515,150

P1-6

1. a.	Materials	58,000	
	Accounts Payable		58,000
b.	Work in Process..	47,000	
	Factory Overhead (Indirect Materials)	15,000	
	Materials		62,000
c.	Payroll	48,000	
	Wages Payable...		48,000
	Wages Payable	48,000	
	Cash...		48,000
	Work in Process..	29,000	
	Factory Overhead (Indirect Labor)	12,000	
	Selling and Administrative Expenses (Salaries)	7,000	
	Payroll		48,000
d.	Factory Overhead (Depreciation of Building)	1,600	
	Factory Overhead (Depreciation of Factory Equipment)	1,833*	
	Selling and Administrative Expenses (Depreciation of Building)...	400	
	Selling and Administrative Expenses (Depreciation of Office Equipment)	1,000	
	Accumulated Depreciation—Building		2,000
	Accumulated Depreciation—Factory Equipment		1,833*
	Accumulated Depreciation—Office Equipment		1,000

*Rounded

P1-6 Continued

e.	Factory Overhead (Miscellaneous)	8,250	
	Selling and Administrative Expenses (Miscellaneous)	2,750	
	Accounts Payable		11,000
f.	Work in Process	38,683	
	Factory Overhead		38,683
g.	Finished Goods	91,000	
	Work in Process		91,000
h.	Accounts Receivable	362,000	
	Sales		362,000
	Cost of Goods Sold	188,000	
	Finished Goods		188,000
i.	Cash	345,000	
	Accounts Receivable		345,000
j.	Accounts Payable	158,000	
	Cash		158,000

P1-6 Continued

2.

Cash

4/30	25,000	(c)	48,000
(i)	345,000	(j)	158,000
	370,000		*206,000*
	164,000		

Accounts Receivable

4/30	65,000	(i)	345,000
(h)	362,000		
	427,000		
	82,000		

Finished Goods

4/30	120,000	(h)	188,000
(g)	91,000		
	211,000		
	23,000		

Work in Process

4/30	35,000	(g)	91,000
(b)	47,000		
(c)	29,000		
(f)	38,683		
	149,683		
	58,683		

Materials

4/30	18,000	(b)	62,000
(a)	58,000		
	76,000		
	14,000		

Building

4/30	480,000		

Accumulated Depreciation—Building

		4/30	72,000
		(d)	2,000
			74,000

Factory Equipment

4/30	220,000		

Accumulated Depreciation—Factory Equipment

		4/30	66,000
		(d)	1,833
			67,833

Office Equipment

4/30	60,000		

Accumulated Depreciation—Office Equipment

		4/30	36,000
		(d)	1,000
			37,000

Accounts Payable

(j)	158,000	4/30	95,000
		(a)	58,000
		(e)	11,000
			164,000
			6,000

Payroll

(c)	(c)
48,000	48,000

Wages Payable

(c)	(c)
48,000	48,000

Capital Stock

		4/30	250,000

Retained Earnings

		4/30	504,000

Sales

		(h)	362,000

Cost of Goods Sold

(h)	188,000		

Factory Overhead

(b)	15,000	(f)	38,683
(c)	12,000		
(d)	1,600		
(d)	1,833		
(e)	8,250		
	38,683		

Selling and Administrative Expenses

(c)	7,000		
(d)	400		
(d)	1,000		
(e)	2,750		
	11,150		

P1-6 Continued

3.

Hokie Manufacturing Co.
Statement of Cost of Goods Manufactured
For the Month Ended May 31, 2013

Materials:		
Inventory, May 1	$ 18,000	
Purchases	58,000	
Total cost of available materials	$ 76,000	
Less inventory, May 31	14,000	
Cost of materials used	$ 62,000	
Less indirect materials used	15,000	
Cost of direct materials used in production		$ 47,000
Direct labor		29,000
Factory overhead:		
Indirect materials	$ 15,000	
Indirect labor	12,000	
Depreciation of building	1,600	
Depreciation of factory equipment	1,833	
Miscellaneous expenses	8,250	
Total factory overhead		38,683
Total manufacturing cost		$114,683
Add work in process inventory, May 1		35,000
		$149,683
Less work in process inventory, May 31		58,683
Cost of goods manufactured		$ 91,000

Hokie Manufacturing Co.
Income Statement
For the Month Ended May 31, 2013

Sales		$362,000
Cost of goods sold:		
Finished goods inventory, May 1	$120,000	
Add cost of goods manufactured	91,000	
Goods available for sale	$211,000	
Less finished goods inventory, May 31	23,000	188,000
Gross profit on sales		$174,000
Selling and administrative expenses		11,150
Net income		$162,850

P1-6 Concluded

Hokie Manufacturing Co.
Balance Sheet
May 31, 2013

Assets

Current assets:			
Cash			$164,000
Accounts receivable			82,000
Inventories:			
Finished goods		$ 23,000	
Work in process		58,683	
Materials		14,000	95,683
Total current assets			$341,683
Plant and equipment:			
Building	$ 480,000		
Less accumulated depreciation	74,000	$ 406,000	
Factory equipment	$ 220,000		
Less accumulated depreciation	67,833	152,167	
Office equipment	$ 60,000		
Less accumulated depreciation	37,000	23,000	
Total plant and equipment			581,167
Total assets			$922,850

Liabilities and Stockholders' Equity

Current liabilities:			
Accounts payable			$ 6,000
Stockholders' equity:			
Capital stock		$250,000	
Retained earnings*		666,850	
Total stockholders' equity			916,850
Total liabilities and stockholders' equity			$

*$504,000 (bal. on 4/30) + $162,850 (Net income for May) = $666,850

P1-7

1.	Materials	55,000	
	Accounts Payable		55,000
2.	Work in Process (Materials)	45,500	
	(Beginning balance + Purchases − Ending balance = $6,000 + $45,000 − $5,500)		
	Factory Overhead (Indirect Materials)	9,900	
	(Beginning balance + Purchases − Ending balance = $800 + $10,000 − $900)		
	Materials		55,400
3.	Payroll	65,000	
	Wages Payable		65,000
4.	Work in Process (Labor)	50,000	
	Factory Overhead (Indirect Labor)	15,000	
	Payroll		65,000
5.	Wages Payable	65,000	
	Cash		65,000
6.	Factory Overhead	42,000	
	Accounts Payable		42,000
7.	Factory Overhead	10,000	
	Various Credits (Prepaid Insurance, Accumulated Depreciation, etc.)		10,000
8.	Work in Process (Factory Overhead)	76,900	
	(Indirect materials + Indirect labor + Factory overhead paid + Factory overhead recorded = $9,900 + $15,000 + $42,000 + $10,000)		
	Factory Overhead		76,900
9.	Finished Goods	169,400	
	(Work in process, beginning balance + Materials + Labor + Factory overhead − Work in process, ending balance = $3,500 + $45,500 + $50,000 + $76,900 − $6,500)		
	Work in Process		169,400

P1-7 Concluded

10. Cost of Goods Sold..	168,200	
(Finished goods, beginning balance + Goods finished during the month − Finished goods, ending balance = $12,000 + $166,400 − $13,200)		
Finished Goods..		168,200

P1-8

1.

Dennis Manufacturing Company
Statement of Cost of Goods Manufactured
For the Month Ended July 31, 20—

Direct materials:		
Inventory, July 1	$ 20,000	
Purchases	110,000	
Total cost of available materials	$130,000	
Less inventory, July 31	26,000	
Cost of direct materials used in production		$104,000[e]
Direct labor		160,000[f]
Factory overhead		80,000[g]
Total manufacturing cost		$344,000[d]
Add work in process inventory, July 1		40,000
Total		$ 384,000[c]
Less work in process inventory, July 31		36,000[b]
Cost of goods manufactured		$348,000[a]

[a] Cost of goods manufactured = cost of goods sold + ending finished goods inventory − beginning finished goods inventory ($345,000 + $105,000 − $102,000 = $348,000)

[b] Ending work in process (90% × $40,000 = $36,000)

[c] Total manufacturing cost to be accounted for ($348,000 + $36,000 = $384,000)

[d] Total manufacturing cost = total manufacturing cost to be accounted for − beginning work in process inventory ($384,000 − $40,000 = $344,000)

[e] Direct materials used = beginning inventory + purchases − ending inventory = ($20,000 + $110,000 − $26,000 = $104,000)

[f] Direct labor = total manufacturing cost − direct materials − factory overhead X = $344,000 − $104,000 − .5X
X = $160,000

[g] Factory overhead = 50% × $160,000 = $80,000

2.

Dennis Manufacturing Company
Schedule to Compute Prime Cost
For the Month Ended July 31, 20—

Direct materials used	$ 104,000 [e]
Direct labor incurred	160,000 [f]
Prime cost incurred during July	$ 264,000

3.

Dennis Manufacturing Company
Schedule to Compute Conversion Cost
For the Month Ended July 31, 20—

Direct labor incurred	$ 160,000 [f]
Factory overhead	80,000 [g]
Conversion cost incurred during July	$ 240,000

P1-9

Manlius Manufacturing Co. Statement of Cost of Goods Manufactured For the Year Ended December 31, 2013

Direct materials used	$ 370,000 [c]
Direct labor	360,000 [b]
Factory overhead	270,000 [a]
Total manufacturing cost	$1,000,000
Add work in process inventory, January 1	20,000 [d]
	$1,020,000
Less work in process inventory, December 31	50,000 [d]
Cost of goods manufactured	$ 970,000

Supporting Computations:

[a] Factory overhead: 27% × total manufacturing cost (27% × $1,000,000) = $270,000

[b] Direct labor: 75% of direct labor equals $270,000, so direct labor was $360,000 ($270,000 ÷ 75%)

[c] Direct materials used equals total manufacturing cost less direct labor and factory overhead [$1,000,000 − ($360,000 + $270,000)]

[d] Work in process inventories:
Let X = ending work in process inventory

$$\$1{,}000{,}000 + 0.4X - X = \$970{,}000$$
$$X = \$50{,}000$$
$$0.4X = \underline{\$20{,}000}$$

P1-10

1.

	Job 101	Job 102	Job 103	Job 104	Total
Direct materials	$2,200	$ 5,700	$ 7,100	$ 1,700	$ 16,700
Direct labor	2,700	6,800	9,200	2,100	20,800
Factory overhead	1,200	2,000	3,800	1,000	8,000
Total..........................	$6,100	$14,500	$20,100	$ 4,800	$45,500

2. a.

	Debit	Credit
Materials	37,000	
Accounts Payable		37,000

b.

	Debit	Credit
Work in Process	16,700	
Factory Overhead	1,350	
Materials		18,050

c.

	Debit	Credit
Payroll	23,050	
Wages Payable		23,050
Work in Process	20,800	
Factory Overhead	2,250	
Payroll		23,050

P1-10 Concluded

d. Factory Overhead	2,400	
Accounts Payable		2,400
e. Factory Overhead	2,000	
Accumulated Depreciation—Machinery		2,000
f. Work in Process	8,000	
Factory Overhead		8,000
g. Finished Goods*	40,700	
Work in Process		40,700
h. Accounts Receivable	39,000	
Sales		39,000
Cost of Goods Sold**	20,600	
Finished Goods		20,600

	***Completed**	****Billed**
Job 101	$ 6,100	$ 6,100
Job 102	14,500	14,500
Job 103	20,100	—
	$40,700	$20,600

3. Added to work in process:

Direct materials	$16,700
Direct labor	20,800
Factory overhead	8,000
Total	$ 45,500
Transferred to finished goods	40,700
Balance (represented by the cost of Job 104)	$ 4,800

4. Added to finished goods

	$40,700
Less costs of goods sold	20,600
Balance (represented by the cost of Job 103)	$20,100

P1-11

1. Work in Process (Jobs 312,411,510)	69,000	
Materials		69,000
Work in Process (Jobs 312,411,510)	185,000	
Payroll		185,000
Work in Process (Jobs 312,411,510)	153,000	
Factory Overhead		153,000
Finished Goods	407,000	
Work in Process (Jobs 312,411,510)		407,000
Accounts Receivable (or Cash)	447,250	
Sales		447,250
Cost of Goods Sold	407,000	
Finished goods		407,000

2. a. Sales		$447,250
Manufacturing costs of goods sold:		
Materials	$ 69,000	
Direct labor	185,000	
Factory overhead	153,000	407,000
Grossprofitonsales		$40,250

b.

	312	411	510
Sales	$152,000	$120,000	$175,250
Manufacturing cost:			
Materials	$25,000	$15,000	$29,000
Direct labor	70,000	60,000	55,000
Factory overhead	50,000	40,000	63,000
Total mfg. cost	$145,000	$115,000	$147,000
Gross profit	$7,000	$5,000	$ 28,250

c.

	312	411	510
Number of units completed	10,000	5,000	14,000
Selling price per unit	$15.20	$24.00	$12.52
Manufacturing cost per unit	14.50	23.00	10.50
Gross profit	$ .70	$ 1.00	$2.02

P1-12

1. Work in Process (Jobs 10AX,11BX,12CX)	138,000	
Materials		138,000
Work in Process (Jobs 10AX,11BX,12CX)	370,000	
Payroll		370,000
Work in Process (Jobs 10AX,11BX,12CX)	306,000	
Factory Overhead		306,000
Finished Goods	814,000	
Work in Process (Jobs 10AX,11BX,12CX)		814,000
Accounts Receivable (or Cash)	900,000	
Sales		900,000
Cost of Goods Sold	814,000	
Finished goods		814,000

2. a. Sales
$900,000

Manufacturing costs of goods sold:

Materials	$ 138,000	
Direct labor	370,000	
Factory overhead	306,000	814,00 0
Gross profit on sales		$86,000

P1-12 Concluded

b.	10AX	11BX	12CX
Sales	$300,000	$250,000	$350,000
Manufacturing costs: Materials	$ 50,000	$30,000	$58,000
Direct labor	140,000	120,000	110,000
Factory overhead	100,000	80,000	126,000
Gross profit	$10,000	$20,000	$56,000

c.	10AX	11BX	12CX
Number of units completed	10,000	5,000	14,000
Selling price per unit	$30	$50	$25
Manufacturing cost per unit	29	46	21
Gross profit per unit	$ 1	$4	$4

P1-13

1. Work in Process	98,500	
Materials		98,500
Work in Process	155,000	
Payroll		155,000
Work in Process	120,000	
Factory Overhead		120,000

2.

Job	Direct Materials Cost	Direct Labor Cost	Factory Overhead	Total Production Cost
007	$ 50,000	$ 80,000	$ 60,000	$190,000
008	22,000	40,000	32,000	94,000
009	18,500	23,000	17,500	59,000
010	8,000	12,000	10,500	30,500
Total	$98,500	$155,000	$120,000	$373,500

Finished Goods Inventory (Job 009)	$59,000
Work in Process Inventory (Job 010)	$30,500

3. Finished Goods	343,000	
Work in Process (Jobs 007, 008, 009)		343,000
Accounts Receivable	426,000	
Sales		426,000
Cost of Goods Sold	284,000	
Finished Goods		284,000

P1-13 Concluded

4.

Adirondack Manufacturing Co. Statement of Cost of Goods Manufactured For the Month Ended January 31, 20—

Direct materials used	$ 98,500
Direct labor	155,000
Factory overhead	120,000
Total manufacturing cost	$ 373,500
Less work in process inventory, January 31	30,500
Cost of goods manufactured	$ 343,000

MINI-CASE

1. The ethical standards which apply to this case are competency, integrity, and objectivity. Competency requires that Gates perform his professional duties in accordance with relevant laws, regulations, and technical standards. Integrity requires that Gates refrain from either actively or passively subverting the attainment of the organization's legitimate and ethical objectives. Objectivity requires that Gates communicate infor-mation fairly and objectively.

2. Gates should first explain to Allen that recording the revenue in 2013 would be a vio-lation of generally accepted accounting principles (GAAP). If Allen persists, Gates should report the matter to the corporate controller. If there is no support from top management, Gates should resign.

INTERNET EXERCISE 1

Students' answers will vary depending upon articles chosen.

INTERNET EXERCISE 2

Students' answers will vary, but key points include:

- Most significant legislation affecting the accounting profession since 1934.
- Applies to over 15,000 publicly-held companies.
- Creates a Public Company Accounting Oversight Board (PCAOB).
- Establishes standards related to the preparation of audits reports and the conduct of audits relative to: the length of time that audit workpapers must be kept; the prohibition of certain nonaudit services for audit clients; the requirement that audit partners rotate off an audit every five years; the requirement that the audit committee of a company's board of directors approve all accounting services to be performed; and the requirement that a company's CEO and CFO attest to the accuracy of the financial statements.