Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

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CHAPTER 2

REFRESHER ON COST TERMS ROAD MAP

CHAPTER LEARNING OBJECTIVES

1. Review financial statement terms to interpret a company's results.
2. Examine financial statements to differentiate between service providers, merchandisers, and manufacturers.
3. Interpret commonly used cost terms used in decision-making.
4. Describe the basics of cost behavior within the relevant range.
5. Trace the flow of costs from the balance sheet to the income statement.
6. Contrast gross margin with contribution margin

Current count is:

Knowledge: 63
Comprehension: 12
Application: 106
Analysis: 1
Evaluation: 0
Synthesis: 0

Total: 182

Number and percentage of questions:

Easy: 46 questions, 25 percent (target 25%)
Medium: 117 questions, 64 percent (target 65%)
Hard: 19 questions, 11 percent (target 10%)

Question types:

Multiple Choice: 90
Brief Exercises: 30
Exercises: 27
Problems: 18
Short Answer: 18

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

MULTIPLE CHOICE QUESTIONS

1. Which of the following is a true statement about the definition of costs?
   a. An expense is the same as a cost.
   b. Noncash charges are not costs since no cash is paid.
   c. A cost can be an asset or an expense.
   d. Costs that have future benefit are expensed on the income statement.

Ans: C, LO 1, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management .

2. Which of the following statements regarding expenses and costs is correct?
   a. Costs and expenses are the same for accounting and reporting purposes.
   b. Costs are reported on the income statement or the balance sheet, and expenses are reported only on the income statement.
   c. Costs are reported on the income statement, and expenses are reported on the balance sheet.
   d. An expense has remaining future benefit while a cost will never have future benefit.

Ans: B, LO 1, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

3. At the beginning of the year, Gizmo Inc. is considering whether to repair and retain an existing machine, or to replace it with a new machine. The following information is available to analyze this decision:

Machine overhaul costs (last year)	$ 6,000
Repair costs (current year)	3,000
Annual operating costs (existing machine)	14,000
Annual operating costs (new machine)	10,000

   Which of the costs being considered for this decision represents a sunk cost?
   a. $6,000 of Machine overhaul costs (last year)
   b. $3,000 of repair costs (current year)
   c. $14,000 of annual operating costs (existing machine)
   d. $10,000 of annual operating costs (new machine)

Ans: A, LO 1, Bloom: C, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

4. CMG Construction purchased a truck 6 years ago at a cost of $68,000. Because the old truck required an overhaul of $4,000 last year, and repairs of $2,000 are needed in the current year, the company is now planning to purchase a new truck to replace the old one. The old truck has a trade-in value of $5,000. The cost of the new truck is $82,000.

   What amount of these costs represent sunk costs?
   a. $68,000
   b. $72,000
   c. $77,000
   d. $79,000

Ans: B, LO 1, Bloom: C, AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Old Truck Cost, $68,000 + Overhaul (last year), $4,000 = $72,000 sunk costs

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5. Opportunity costs
   a. can be found on the income statement as expenses.
   b. can be found on the balance sheet as prepaid expenses.
   c. relate to decision making but are not reported on the financial statements.
   d. do not impact decision-making because they happened in the past.

Ans: C, LO 1, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

6. A resource sacrificed to bring benefit in the current period, leaving **no** remaining future benefit is a(n)
   a. cost
   b. expense
   c. expenditure
   d. revenue

Ans: B, LO 1, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

7. Which of the following is **not** an expense?
   a. Salaries and payroll-related
   b. Depreciation
   c. Marketing and selling
   d. Inventory

Ans: D, LO 1, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

8. Costs with future benefits are considered
   a. expenses.
   b. assets.
   c. liabilities.
   d. net income.

Ans: B, LO 1, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

9. Which of the following costs does not impact decision-making for a business?
   a. Sunk cost
   b. Opportunity cost
   c. Product cost
   d. Variable cost

Ans: A, LO 1, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Decision Analysis.

10. If costs do **not** have objective, measurable future benefit, they are
    a. not reported on the financial statements.
    b. reported on the balance sheet as an asset.
    c. reported on the income statement as an expense.
    d. reported on the income statement as an asset or the balance sheet as an expense.

Ans: C, LO 1, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

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11. Inventory for a merchandising business is classified as a(n)
    a. revenue and an expense.
    b. cost and an asset.
    c. cost and an expense.
    d. expense and an asset.

Ans: B, LO 1, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounting.

12. If an asset is consumed, used up, or has **no** future benefit, it
    a. remains an asset and continues to be reported on the balance sheet.
    b. becomes an expense and will be reported on the income statement.
    c. becomes an expense but continues to be reported on the balance sheet.
    d. remains an asset but will be reported on the income statement.

Ans: B, LO 1, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

13. Using vertical analysis for the income statement, the base, set at 100%, is
    a. total operating expenses.
    b. net income.
    c. operating income.
    d. total revenues.

Ans: D, LO 1, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Financial Statement Analysis.

14. Nyco Corp. had the following financial information at the end of its first month of operations:

Revenues		$90,000
Payroll and related expenses	28,000	
Rent expense	15,000	
Utilities expense	3,000	
Advertising expense	2,000	
Total Operating Expenses		48,000
Profit		$42,000

In performing vertical analysis, the payroll and related expenses would be expressed as
    a. 31%.
    b. 58%.
    c. 67%.
    d. 100%.

Ans: A, LO 1, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Financial Statement Analysis.
Solution: Payroll and related expenses ÷ Revenues = $28,000 ÷ $90,000 = 31%

15. Using vertical analysis for the balance sheet, the base, set at 100%, is
    a. total assets.
    b. net income.
    c. total stockholders' equity.
    d. total liabilities.

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Ans: A, LO 1, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Financial Statement Analysis.

16. When comparing the financial reporting for service providers and merchandisers, which of the following statements is correct regarding these two business entities?
    a. Operating expenses are significantly different between service providers and merchandisers.
    b. Merchandisers report merchandise inventory and cost of goods sold but service providers usually do not.
    c. Both business entities report cost of goods sold, but only merchandisers report merchandise inventory.
    d. Both business entities report merchandise inventory but only merchandisers report cost of goods sold.

Ans: B, LO 2, Bloom: C, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounting.

17. Which of the following is reported on the balance sheet of a merchandiser?
    a. Raw materials inventory
    b. Finished goods inventory
    c. Merchandise inventory
    d. Work-in-process inventory

Ans: C, LO 2, Bloom: C, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounting.

18. For financial statement reporting, Inventories are reported as a(n)
    a. cost of goods sold on the income statement.
    b. expenses on the income statement.
    c. current assets on the income statement.
    d. current assets on the balance sheet.

Ans: D, LO 2, Bloom: C, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounting.

19. A merchandiser shows total current assets of $59,000 and the following additional information:

Cash and Cash Equivalents	$10,000
Accounts Receivable	5,000
Property, Plant and Equipment	30,000
Other long-term assets	7,000

How much Merchandise Inventory would be reported for the merchandiser?
    a. $8,000
    b. $23,000
    c. $39,000
    d. $44,000

Ans: D, LO 2, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounting.
Solution: Merchandise Inventory = Total Current Assets – Cash and Cash Equivalents – Accounts Receivable = $59,000 - $10,000 - $5,000 = $44,000.

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

20. Which of the following items would appear on the income statement of a merchandiser but usually not on the income statement of a service provider?
    a. Revenues
    b. Cost of goods sold
    c. Net income
    d. Operating expenses

Ans: B, LO 2, Bloom: C, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounting.

21. The ability of a manufacturer to mark-up its product costs to selling price is reflected in its
    a. gross margin (profit).
    b. nonoperating expenses.
    c. operating expenses.
    d. inventory.

Ans: A, LO 2, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

22. Which of the following costs reported in the financial statements would uniquely identify the business entity as a manufacturer?
    a. Rent expense
    b. Work-in-process inventory
    c. Merchandise inventory
    d. Cost of goods sold

Ans: B, LO 2, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounting.

23. Which of the following statements related to a Service Provider is **incorrect**?
    a. A Service Provider commonly will not carry inventory or cost of goods sold accounts.
    b. Occasionally, a Service Provider will carry goods for sale that complement the service provided.
    c. Most costs for a Service Provider are expensed as incurred instead of going through the balance sheet.
    d. A Service Provider commonly will carry inventory and cost of goods sold accounts similar to a Merchandiser.

Ans: D, LO 2, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

24. Shin Manufacturers reports the following information at the end of the current year:

Sales Revenue	$125,000
Cost of Goods Sold	33,000
Selling Expenses	12,000
General and Administrative Expenses	10,000
Raw Materials Inventory	42,000
Work-In-Process Inventory	26,000
Finished Goods Inventory	11,000
Cash	23,000

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

What is the gross margin at year-end for Shin Manufacturers?

a. $46,000
b. $70,000
c. $92,000
d. $158,000

Ans: C, LO 2, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounting.
Solution: Gross Margin = Sales Revenue – Cost of Goods Sold = $125,000 - $33,000 = $92,000.

25. Ringold Retailers reports the following information at the end of the current year:

Sales Revenue	$452,000
Cost of Goods Sold	213,000
Selling Expenses	58,000
General and Administrative Expenses	46,000
Merchandise Inventory	93,000
Cash	125,000
Accounts Receivable	21,000
Supplies	4,000

What is Ringold's net income at year-end?

a. $135,000
b. $181,000
c. $146,000
d. $239,000

Ans: A, LO 2, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounting.
Solution: Net Income = Sales Revenue – Cost of Goods Sold – Selling Expenses – General and Administrative Expenses = $452,000 - $213,000 - $58,000 - $46,000 = $135,000.

26. Marcus Manufacturers reports the following information at the end of the current year:

Sales Revenue	$250,000
Cost of Goods Sold	125,000
Selling Expenses	15,000
General and Administrative Expenses	23,000
Raw Materials Inventory	44,000
Work-In-Process Inventory	27,000
Finished Goods Inventory	35,000
Cash	68,000
Accounts Receivable	42,000
Prepaid Expenses	9,000

What is the amount of total current assets reported for Marcus Manufacturers at year-end?

a. $119,000
b. $216,000
c. $225,000
d. $350,000

Ans: C, LO 2, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounting.

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

Solution: Total Current Assets = Cash + Accounts Receivable + Finished Goods Inventory + Work-In-Process Inventory + Raw Materials Inventory + Prepaid Expenses = $68,000 + $42,000 + $35,000 + $27,000 + $44,000 + 9,000 = $225,000

27. Micromart reports the following information at the end of the current year:

Sales Revenue	$567,000
Selling Expenses	126,000
General and Administrative Expenses	78,000
Gross Margin	330,000
Net Income	33,000
Merchandise Inventory	149,000
Cash	72,000
Accounts Receivable	213,000

What is Micormart's cost of goods sold at year-end?

a. $111,000
b. $159,000
c. $237,000
d. $285,000

Ans: C, LO 2, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounting.
Solution: Cost of Goods Sold = Sales Revenue - Gross Margin = $567,000 - $330,000 or Net Income + General and Administrative Expenses + Selling Expenses = $33,000 + $78,000 + $126,000 = $237,000.

28. At year-end, Xenon Manufacturers had Sales Revenue of $987,000. Its Cost of Goods Sold was 30% of Sales Revenue. Operating expenses for the year included $205,000 of Selling Expenses and $56,000 of General and Administrative Expenses. The balance in the Prepaid Expenses was $22,000 at the end of the year. What was the net income for Xenon Manufacturers at the end of the year?

a. $407,900
b. $429,900
c. $451,900
d. $704,000

Ans: B, LO 2, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounting.
Solution: Net Income = Sales Revenue – Cost of Goods Sold – Selling Expenses – General and Administrative Expenses = $987,000 – ($987,000 x 30%) - $205,000 - $56,000 = $429,900.

29. At year-end, Hercules, Inc. had Sales Revenue was $1,235,000. Its Cost of Goods Sold was 45% of Sales Revenue. Operating expenses for the year included $345,000 of Selling Expense and $142,000 of General and Administrative Expenses. Hercules, Inc. also had balances in Work-In-Process Inventory of $56,000, Finished Goods Inventory of $69,000, and Prepaid Expenses of $13,000 at year-end. What was the gross margin for Hercules, Inc. at year-end?

a. $192,250
b. $679,237
c. $679,250
d. $748,000

Ans: C, LO 2, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounting.
Solution: Gross Margin = Sales Revenue – Cost of Goods Sold = $1,235,000 – ($1,235,000 x 45%) = $679,250 or $1,235,000 x (100% - 45%) = $679,250.

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

30. At year-end, KC Consulting had Service Revenue of $365,000. Other pertinent data is as follows:

Salaries and benefits expense	$72,000
Rental fees expense	51,000
Depreciation expense	16,000
Marketing and selling expense	9,000
Equipment	85,000
Prepaid expenses	3,000

What is the net income for KC Consulting at year-end?

a. $132,000
b. $214,000
c. $217,000
d. $242,000

Ans: C, LO 2, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounting.
Solution: Net Income = Sales Revenue – Salaries and benefits expense – Rental fees expense – Depreciation expense – Marketing and selling expense = $365,000 – $72,000 -$51,000 - $16,000 - $9,000 = $217,000.

31. Product costs consist of

a. direct materials and direct labor only.
b. direct materials, direct labor, and manufacturing overhead.
c. direct materials, direct labor, and selling expenses.
d. direct materials, direct labor, and general and administrative expenses.

Ans: B, LO 3, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

32. Which of the following is a period cost?

a. Factory rent
b. Factory depreciation
c. Office depreciation
d. Factory insurance

Ans: C, LO 3, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

33. Direct costs include

a. direct materials and direct labor.
b. direct materials and manufacturing overhead.
c. direct labor and manufacturing overhead.
d. direct materials, direct labor, and manufacturing overhead.

Ans: A, LO 3, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

34. Which of the following is a non-manufacturing cost?

a. Office supplies
b. Factory rent
c. Materials used to make products
d. Wages for production workers

Ans: A, LO 3, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

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35. Prime costs are defined as
    a. direct materials + manufacturing overhead.
    b. direct labor + manufacturing overhead.
    c. direct materials + direct labor.
    d. direct materials + direct labor + manufacturing overhead.

Ans: C, LO 3, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

36. Prime costs are synonymous with
    a. indirect costs.
    b. direct costs.
    c. conversion costs.
    d. total product costs.

Ans: B, LO 3, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

37. Conversion costs are equal to
    a. direct materials + direct labor + manufacturing overhead.
    b. direct materials + direct labor.
    c. direct materials + manufacturing overhead.
    d. direct labor + manufacturing overhead.

Ans: D, LO 3, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

38. In computing the cost to manufacture a product, the total prime cost will always be
    a. greater than the conversion cost.
    b. less than the conversion cost.
    c. less than the product cost.
    d. greater than the product cost.

Ans: C, LO 3, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

39. Ferguson Fasteners, Inc. manufactures hook-and-eye closures. For the month of July, it incurred direct labor of $65,300, direct materials of $32,400, and manufacturing overhead of $44,800. Included in these costs are direct costs of $97,700 and indirect costs of $44,800. Respectively, the conversion costs and prime costs for Ferguson Fasteners, Inc. for July are
    a. $77,200 and $97,700.
    b. $77,200 and $110,100.
    c. $97,700 and $110,100.
    d. $110,100 and $97,700.

Ans: D, LO 3, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Conversion Costs = Direct Labor + Manufacturing Overhead = $65,300 + $44,800 = $110,100 and Prime Costs = Direct Costs = Direct Materials + Direct Labor = $32,400 + $65,300 = $97,700

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

40. Anwar, Inc. incurred the costs listed below for the month of May in manufacturing shoes.

Leather uppers and soles used	$190,000	Salespersons' salaries	$ 65,000
Advertising	22,000	Insurance on factory	38,000
Factory labor	115,000	Factory manager salary	12,000
Factory equipment depreciation	43,000	Factory rent	27,000
Office supplies	16,000	Factory utilities	21,000

From this list, the total product costs are
a. $434,000.
b. $446,000.
c. $462,000.
d. $533,000.

Ans: B, LO 3, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: (Leather uppers and soles used + Factory labor + Factory equipment depreciation + Insurance on factory + Factory manager salary + Factory rent + Factory utilities) = ($190,000 + $115,000 + $43,000 + $38,000 + $12,000 + $27,000 + $21,000) = $446,000

41. Magnum Manufacturing had sales revenue last year of $100,000, direct manufacturing costs of $60,000, and indirect manufacturing costs of $20,000. If Magnum expects revenues to increase by 10% for the upcoming year, with direct manufacturing costs maintaining the same percentage relationship to sales as in the previous year, and the indirect manufacturing costs remaining unchanged, what will the expected profit margin be for Magnum during the upcoming year?
a. $20,000
b. $40,000
c. $44,000
d. $24,000

Ans: D, LO 3, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Direct manufacturing costs ÷ Sales = $60,000 ÷ $100,000 = 60%; Expected Sales = $100,000 x (1 + 10%) = $110,000, Expected direct manufacturing costs = (Expected sales, $110,000 x 60% = $66,000; Sales – Direct Costs – Indirect Manufacturing Costs = Profit Margin; $110,000 - $66,000 - $20,000 = $24,000

42. Colmar, Inc. incurred the following costs for the month of June in manufacturing gardening tools.

Wood handles and metal parts used	$ 156,000	Advertising	$ 15,000
Salespersons' salaries and commissions	22,000	Insurance on factory	13,000
Labor costs for tool assemblers	85,000	Factory manager salary	9,000
Factory equipment depreciation	27,000	Factory building rent	39,000
Office supplies	14,000	Factory utilities	11,000

From this information, the total manufacturing costs are
a. $331,000.
b. $340,000.
c. $377,000.
d. $391,000.

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

Ans: B, LO 3, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: (Wood handles and metal parts used + Factory labor + Factory equipment depreciation + Insurance on factory + Factory manager salary + Factory rent + Factory utilities) = ($156,000 + $85,000 + $27,000 + 13,000 + $9,000 + $39,000 + $11,000) = $340,000

43. Deng Distributors incurred the following costs for the month of April in making smartphone covers:

Plastic casing components used	$ 142,000	Advertising	$ 19,000
Salespersons' salaries and commissions	33,000	Insurance on factory	8,000
Labor costs for case production workers	57,000	Office manager salary	7,500
Factory equipment depreciation	24,000	Factory building rent	31,200
Office supplies	12,000	Office utilities	13,500

What are the total period costs for April based on this information?

a. $85,000
b. $109,000
c. $124,200
d. $148,200

Ans: A, LO 3, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Period Costs = Salespersons' salaries and commissions + Office supplies + Advertising + Office manager salary + Office utilities = $33,000 + $12,000 + $19,000 + $7,500 + $13,500 = $85,000

44. Metluck Motor-Parts, Inc. incurred the following costs for the current month:

Motor-part materials used	$250,200	Office salaries and wages	$ 25,000
Office rent	18,700	Office insurance	8,500
Assembly-line worker wages	75,600	Factory manager salary	9,200
Factory equipment depreciation	25,400	Factory rent	27,000
Office supplies	7,500	Factory supplies	6,400
Factory utilities	13,800	Office manager's salary	6,300

The total conversion costs for Metluck Motor-Parts, Inc. for the current month is

a. $151,000.
b. $157,400.
c. $171,200.
d. $179,700.

Ans: B, LO 3, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Total Conversion Costs = Direct Labor + Manufacturing Overhead = $75,600 + $81,800 = $157,400; Direct Labor = Assembly-line worker wages = $75,600; Manufacturing Overhead = Factory equipment depreciation + Factory utilities + Factory manager salary + Factory rent + Factory supplies = $25,400 + $13,800 + $9,200 + $27,000 + $6,400 = $81,800.

45. Miracle Marble, Inc. incurred the following costs for the current month to produce high-end marble countertops:

Marble used in production	$180,400	Sales salaries and wages exp.	$ 32,000
Factory equipment rent	28,700	Store insurance expense	5,800
Assembly-line worker wages	89,500	Factory manager salary	8,100
Factory insurance	6,300	Factory building depreciation	27,000
Store supplies used	7,800	Marble-dusting materials used	7,200
Factory utilities	13,800	Store manager salary expense	4,300

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Respectively, the total manufacturing and non-manufacturing costs for Miracle Marble are
a. $352,900 manufacturing costs and $58,000 non-manufacturing costs.
b. $361,000 manufacturing costs and $49,900 non-manufacturing costs.
c. $368,800 manufacturing costs and $42,100 non-manufacturing costs.
d. $373,100 manufacturing costs and $37,800 non-manufacturing costs.

Ans: B, LO 3, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Total Manufacturing Costs = Direct Materials + Direct Labor + Manufacturing Overhead = (Marble used in production + Marble-dusting materials used) + Assembly-line worker wages + (Factory equipment rent + Factory insurance + Factory Utilities + Factory manager salary + Factory building depreciation) = ($180,400 + $7,200) + $89,500 + ($28,700 + $6,300 + $$13,800 + $8,100 +$27,000) = $361,000; Non-manufacturing costs = Period costs = Store supplies used + Sales salaries and wages exp. + Store insurance expense + Store manager salary expense= $7,800 + $32,000 + $5,800 + $4,300 = $49,900

46. A fixed cost
a. remains constant per unit at every level of activity.
b. remains constant in total at every level of activity..
c. varies in total with changes in the level of activity.
d. increases per unit as the activity level increases

Ans: B, LO 4, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

47. Variable costs
a. vary in total with a given change in an activity level.
b. increase per unit as activity levels increase.
c. decrease per unit as activity levels decrease.
d. do not change in total with a given change in an activity level.

Ans: A, LO 4, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

48. Information for Hans Gruber, Inc. for the current and prior months is provided below:

Cost Item		Activity in Units	Cost
Rent Expense	Current Month	20,000	$50,000
	Prior Month	10,000	50,000
Factory Labor	Current Month	20,000	80,000
	Prior Month	10,000	40,000

How would the costs for “Rent Expense” and “Factory Labor” be classified?
a. Rent Expense is a variable cost and Factory Labor is a fixed cost.
b. Rent Expense is a fixed cost and Factory Labor is a variable cost.
c. Both Rent Expense and Factory Labor are variable costs.
d. Both Rent Expense and Factory Labor are fixed costs.

Ans: B, LO 4, Bloom: C, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

49. Which of the statements regarding the relevant range for a business is true?
    a. No relationship exists between the relevant range for a business and fixed costs and capacity.
    b. Within the relevant range for a business, the fixed costs and capacity will always change with the change in the activity level.
    c. Within the relevant range for a business, fixed costs stay fixed or constant when the activity level changes.
    d. Within the relevant range for a business, variable costs stay fixed or constant when the activity level changes.

Ans: C, LO 4, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

50. Within the relevant range, if a company's level of production decreases, variable costs
    a. will remain unchanged.
    b. increase in total, but remain the same per unit.
    c. decrease in total, but remain the same per unit.
    d. decrease in total, but the per unit amount may increase or decrease.

Ans: C, LO 4, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

51. Within the relevant range, as a company's level of production increases, fixed costs
    a. will remain the same in total and the per unit amount will decrease.
    b. increase in total, but decrease the per unit amount.
    c. increase in total, but remain the same per unit.
    d. decrease in total, but the per unit amount may increase or decrease.

Ans: A, LO 4, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

52. Which of the following costs is a variable cost?
    a. Factory insurance
    b. Factory production labor costs
    c. Factory rent
    d. Factory equipment depreciation

Ans: B, LO 4, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

53. Which of the following statements is correct regarding the management of costs for businesses when activity levels may change rapidly?
    a. Fixed costs are more manageable than variable costs.
    b. Both fixed costs and variable costs are easily managed.
    c. Variable costs are more manageable than fixed costs.
    d. Both variable costs and fixed costs are difficult to manage.

Ans: C, LO 4, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

54. The following contribution margin income statement represents the operations of Peroux Company, a small manufacturer, at a level of production of 10,000 units (assuming all units produced are sold):

Sales Revenue	$53,000
Variable Costs	33,000
Contribution Margin	20,000
Fixed Costs	15,000
Net Income	5,000

The relevant rage for Peroux Company is 4,000 to 12,000 units. If production and sales were to decrease to 5,000 units, which of the following would likely occur?

a. Unit variable cost would increase but unit fixed cost would not change.
b. Unit variable cost would not change, but unit fixed cost would decrease.
c. Unit variable cost and unit fixed cost would not change.
d. Unit variable cost would not change, but unit fixed cost would increase.

Ans: D, LO 4, Bloom: AN, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

55. Janus Manufacturing had sales revenue last year of $200,000, variable manufacturing costs of $120,000, and fixed manufacturing costs of $40,000. If Janus expects sales revenue to increase by 10% for the upcoming year, with variable manufacturing costs maintaining the same percentage relationship to sales revenue as in the previous year, and fixed manufacturing costs remaining the same, what will the expected profit be for Janus in the upcoming year?

a. $40,000
b. $44,000
c. $48,000
d. $88,000

Ans: C, LO 4, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Variable costs / Sales Revenue = $120,000 / $200,000 = 60%; Expected Sales Revenue = $200,000 x (1 + 10%) = $220,000, Expected Sales Revenue – ($220,000 x 60%, Expected Variable Costs) – $40,000, Fixed Costs = Expected Profit, $48,000.

56. Copper Creek Nursery purchases annual and perennial plants from Commercial Landscapers. If the nursery purchases at least 3,000 plants, the cost per annual plant is $1.50 and the cost per perennial plant is $2.00. If 3,001 or more plants are purchased, then a bulk discount of 20% is given for the entire purchase. If Copper Creek purchases 3,000 annual plants and 2,000 perennial plants, what will be the total variable cost of the plants purchased?

a. $6,800
b. $7,000
c. $7,600
d. $8,500

Ans: A, LO 4, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Total Variable costs = (Cost per annual plant x annual plants purchased) + (Cost per perennial plant x perennial plants purchased) = [{$1.50 x (1 – 20%)} x 3,000] + [{$2.00 x (1 – 20%)} x 2,000] = $3,600 + $3,200 = $6,800.

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57. MCG Industries has the following sales and cost data per unit at current production of 10,000 units:

Selling Price per Unit	$25.00
Variable Cost per Unit	9.40
Fixed Cost per Unit	5.10

If MCG Industries was able to increase production to 20,000 units without having to add extra capacity, what will the total costs be for the company?

a. $145,000
b. $196,000
c. $239,000
d. $290,000

Ans: C, LO 4, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Total Costs = Total Variable Costs + Total Fixed Costs = (Variable cost per unit x 20,000 units) + (Fixed Cost per Unit x original units, 10,000) = ($9.40 x 20,000) + (5.10 x 10,000 units) = $188,000 + 51,000 =$239,000.

58. Retro Rockers makes vintage rocking chairs. It has the following sales and cost data per unit at current production of 100,000 units:

Selling Price per Unit	$200.00
Variable Cost per Unit	123.50
Fixed Cost per Unit	27.30

If Retro Rockers was able to increase production by 20% without having to add extra capacity, what amount of profit will the company recognize?

a. $4,920,000
b. $5,904,000
c. $6,450,000
d. $8,374,000

Ans: C, LO 4, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Sales Revenue - Total Costs = Profit; Sales Revenue = Selling Price per Unit x Expected Sales = [$200.00 x (100,000 units x (1 + 20%)] = $24,000,000; Total Costs = Total Variable Costs + Total Fixed Costs = [{Variable cost per unit x Expected Units, 100,000 units x (1 + 20%)} + (Fixed Cost per Unit x original units, 100,000)] = ($123.50 x 120,000) + (27.30 x 100,000 units) = $14,820,000 + 2,730,000 =$17,550,000; Sales Revenue, $24,000,000 – Total Costs, $17,550,000 = $6,450,000 Profit.

59. Palm Furniture makes beach-themed furniture. In the prior-year, the unit selling price for a dining set was $1,000 with a unit variable cost of $400 and a unit fixed cost of $200 based on prior production and sales of 5,000 dining sets. For the current year, Palm Furniture is planning to increase the unit selling price to $1,100 since the unit variable cost is increasing 20%. Assuming that at the higher selling price, the company feels that sales may decrease to 4,500 dining sets, what profit will Palm Furniture expect to recognize in the current year?

a. $1,790,000
b. $1,890,000
c. $2,790,000
d. $3,160,000

Ans: A, LO 4, Bloom: K, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

Solution: Sales Revenue - Total Costs = Profit; Sales Revenue = New Selling Price per Unit x Expected Sales = [$1,100 x 4,500 units = $4,950,000; Total Costs = Total Variable Costs + Total Fixed Costs = [{Variable cost per unit x (1 + 20%)} x Expected Units, 4,500 units] + (Fixed Cost per Unit x original units, 5,000)] = ($400 x 1.2 x 4,500) + ($200 x 5,000 units) = $2,160,000 + 1,000,000 =$3,160,000; Sales Revenue, $4,950,000 – Total Costs, $3,160,000 = $1,790,000 Profit

60. Franconia Florist makes custom floral arrangements. Sales and cost data is available for the current year below.

Arrangements	3,000 units
Sales	$195,000
Variable Costs	60,000
Fixed Costs	80,000

If Franconia Florist were able to increase production and sales by 2,000 units while remaining within its relevant range (not adding extra fixed costs), what would the unit variable cost and unit fixed cost be at 5,000 units?

a. unit variable cost, $20.00, and unit fixed cost, $26.67
b. unit variable cost, $20.00, and unit fixed cost, $16.00
c. unit variable cost, $16.00, and unit fixed cost, $33.33
d. unit variable cost, $26.67, and unit fixed cost,$33.33

Ans: B, LO 4, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Unit Variable Cost at 5,000 units (3,000 units original + 2,000 additional units) = $60,000 ÷ 3,000 units = $20.00 or [($60,000 ÷ 3,000 units) x 5,000 units] ÷ 5,000 units = $20.00; and Unit Fixed Cost at 5,000 units = $80,000 ÷ 5,000 units = $16.00

61. Manufacturing costs incurred during production are
a. expensed when incurred.
b. inventoriable costs when the units are sold.
c. inventoriable costs, and only expensed when the units are sold.
d. inventoriable costs throughout the production and sales cycle.

Ans: C, LO 5, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

62. When determining the ending balances in the inventory accounts, the ending balance the Work-In-Process Inventory account represents the manufacturing costs of
a. units that are completed.
b. units that are sold.
c. units not yet started into production.
d. units started into production but not finished.

Ans: D, LO 5, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

63. When goods are completed in the production process, they are transferred from
a. Work-In-Process Inventory to Finished Goods Inventory.
b. Raw Materials Inventory to Work-In-Process Inventory.
c. Finished Goods inventory to Cost of Goods Sold.
d. Finished goods Inventory to Work-In-Process Inventory.

Ans: A, LO 5, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting.

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

64. Which account will appear on a company's income statement?
    a. Raw materials inventory
    b. Cost of goods sold
    c. Cash
    d. Accounts payable

Ans: B, LO 5, Bloom: C, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounting.

65. When assigning manufacturing costs to production, which account will be debited?
    a. Finished goods inventory
    b. Cost of goods sold
    c. Work-in-process inventory
    d. Manufacturing overhead

Ans: C, LO 5, Bloom: C, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounting.

66. Vision-Right Eyewear manufactures discount eyeglasses. The company is trying to determine the amount of plastic material used in production during the current year. The inventory manager has in his records that the beginning inventory for the plastic material was $28,000 and that the ending inventory for the plastic material is $33,000, both based on a physical count. After contacting the purchasing department, it was determined that three separate purchases were made during the year as follows:

    March 15…….. $42,000
    July 23……$37,000
    October 7…… $55,000

    How much of the plastic material was used to produce glasses during the current year?
    a. $73,000
    b. $129,000
    c. $139,000
    d. $195,000

Ans: B, LO 5, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Raw Materials Used = Beginning Direct Materials Inventory + Purchases - Ending Direct Materials Inventory; $28,000 + ($42,000 + $37,000 + $55,000) - $33,000 = $129,000.

67. Zoom Robotics produces robotic vacuum cleaners. For the current month, Zoom has the following information and business transactions:

    Beginning Balances: Raw Materials Inventory, $13,500; Work-In-Process Inventory, $16,000; and Finished Goods Inventory, $22,000.
    Production data for the month: Direct materials, direct labor and manufacturing overhead costs totaling $73,000 were incurred in producing 4,000 robotic vacuums.
    Ending Balances: Raw Materials Inventory, $15,000; Work-In-Process Inventory, $34,000; and Finished Goods Inventory, $13,000.

    What is the cost of the goods completed and transferred to the Finished Goods Inventory at the end of the current month?

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

a. $21,000
b. $39,000
c. $55,000
d. $77,000

Ans: C, LO 5, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: (Work-In Process Inventory-Beginning Balance + Total Manufacturing Costs) – Work-in-Process Inventory-Ending Balance = Cost of Goods Completed for the Period; WIP Beg. Bal., $16,000 + Total Mfg. Costs, $73,000 (DM + DL + MOH) – WIP End. Bal., $34,000 = $55,000.

68. Millville Menagerie has a beginning balance in its Work-in-Process Inventory of $33,000 and an ending balance in its Work-in-Process Inventory of $25,000. If Millville's Cost of Goods Manufactured is $114,000, and it incurred costs for direct materials, $42,000, and direct labor, $38,000, how much manufacturing overhead was assigned (applied) to production?
a. $26,000
b. $34,000
c. $42,000
d. $104,000

Ans: A, LO 5, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: (Work-In Process Inventory-Beginning Balance + Total Manufacturing Costs) – Work-in-Process Inventory-Ending Balance = Cost of Goods Manufactured; WIP Beg. Bal., $33,000 + Total Mfg. Costs, (DM, $42,000 + DL, $38,000 + MOH) – WIP End. Bal., $25,000 = $114,000. Solving for MOH = ($33,000 + $42,000 + $38,000) + MOH - $25,000 = $114,000; $88,000 + MOH = $114,000; MOH = $114,000 - $88,000 = $26,000.

69. Lennox Manufacturing had the following production data for the week ended January 31,20XX, with no beginning balance in the Work-In-Process Inventory account:

Monday: Requisitioned $22,000 of direct materials into production and assigned $39,000 of direct labor to production.
Wednesday: Added $17,000 of manufacturing overhead to production.
Friday: Completed production on 60% of the production and transferred the completed units to finished goods inventory.

The balance in the Work-in-Process Inventory at the end of the week would be
a. $24,400
b. $31,200
c. $46,800
d. $78,000

Ans: B, LO 5, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: (Direct Materials + Direct Labor + Manufacturing Overhead) x (1 – 60%) = ($22,000 + $39,000 + $17,000) x 40% = $31,200.

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

70. Mannix Manufacturing had the following production data for the month ended April 30, 20XX, with a beginning balances in the Work-In-Process Inventory of $0 and Finished Goods Inventory account of $13,000:

April 9: Requisitioned $54,000 of direct materials into production and assigned $58,000 of direct labor to production.
April 17: Added $32,000 of manufacturing overhead to production.
April 27: Completed production on 80% of the production and transferred the completed units to finished goods inventory.
April 30: Sold 40% of the products in finished goods inventory.

The balance in the Finished Goods inventory at the end of the month would be

a. $56,120
b. $69,120
c. $75,360
d. $76,920

Ans: D, LO 5, Bloom: AP, Difficulty: Hard, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Ending FG Inventory = Beginning FG Inventory + [{(Direct Materials + Direct Labor + Manufacturing Overhead) x 80%}] x (1 – 40%) = [$13,000 + {($54,000 + $58,000 + $32,000) x 80%}] x 60% = ($13,000 + $115,200) x 60% = $76,920.

71. The account balances are show below for Deshields Industries at the end of the current month:

Direct Materials Used	$58,000	Finished Goods Inventory, Beg.	$38,000
WIP, Beginning	35,000	Factory Insurance	6,400
Depreciation - Factory Equipment	9,100	Office supplies	3,700
Advertising expenses	4,200	Direct Labor	44,000
Finished Goods Inventory, End.	28,000	WIP, Ending	65,000
Factory supervisor salary	13,000	Office equipment depreciation	1,600
Sales commissions	7,000	Delivery expenses	3,900
Factory utility costs	3,500	Office rent	5,500

The cost of goods manufactured for Deshields Industries at the end of the month is

a. $104,000
b. $107,900
c. $117,100
d. $164,000

Ans: A, LO 5, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Cost of Goods Manufactured = WIP, Beginning + (Direct Materials Used + Direct Labor + Manufacturing Overhead) – WIP, Ending = $35,000 + [$58,000 + $44,000 + ($9,100 + $13,000 + $3,500 + $6,400)] - $65,000 = $104,000

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

72. If Johnson Manufacturing has the following information, what is the cost of goods sold?

Direct Materials Used	$38,000	Finished Goods Inventory, Beg.	28,000
WIP, Beginning	45,000	Factory Insurance	2,400
Depreciation - Factory Equipment	2,900	Office supplies	1,600
Advertising expenses	5,300	Cost of goods manufactured	$44,000
Finished Goods Inventory, End.	38,000	WIP, Ending	38,000
Factory supplies	3,100	Office equipment depreciation	2,400
Sales commissions	7,000	Delivery expenses	4,600

a. $34,000
b. $37,000
c. $51,000
d. $54,000

Ans: A, LO 5, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Finished Goods Inventory, Beginning + Cost of Goods Manufactured – Finished Goods Inventory, Ending = Cost of Goods Sold = $28,000 + $44,000 - $38,000 = $34,000

73. Which of the following journal entries is correct to account for the cost of goods completed at the end of a period?
a. Debit Work-in-Process Inventory and credit Finished Goods Inventory
b. Debit Cost of Goods Sold and credit Finished Goods Inventory
c. Debit Finished Goods Inventory and credit Work-in-Process Inventory
d. Debit Finished Goods Inventory and credit Sales

Ans: C, LO 5, Bloom: K, Difficulty: Medium, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: FSA.

74. When accounting for the sale of completed goods, which of the following entries would be correct in recording the sale?
a. Debit Finished Goods Inventory
b. Debit Cost of Goods Sold
c. Credit Cost of Goods Sold
d. Debit Sales

Ans: B, LO 5, Bloom: K, Difficulty: Medium, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounting.

75. Assuming all units produced are sold for a business, then the operating income computed in a contribution income statement as compared to a gross margin income statement is
a. greater.
b. lower.
c. the same amount.
d. undeterminable without action amounts.

Ans: C, LO 6, Bloom: C, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounting.

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

76. Contribution margin is
    a. the same as gross margin.
    b. the difference between sales and variable costs.
    c. the difference between sales and total manufacturing costs.
    d. the difference between sales and cost of goods sold.

Ans: B, LO 6, Bloom: K, Difficulty: Easy, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

77. Which of the following statements is true regarding the use of different types of income statements?
    a. Traditional GAAP income statements are used for internal financial reporting purposes only.
    b. Contribution margin income statements are used for external financial reporting purposed only.
    c. Traditional GAAP income statements separate variable and fixed costs, which help in internal decision making.
    d. Contribution margin income statements separate variable and fixed costs, which help in internal decision-making.

Ans: D, LO 6, Bloom: K, Difficulty: Medium, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounting.

78. Full cost is
    a. the same as product cost.
    b. made up of both product costs and period costs.
    c. made up of variable costs and period costs.
    d. made up of fixed costs and period costs.

Ans: B, LO 6, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

79. Gross margin equals
    a. variable costs plus fixed costs.
    b. sales less variable costs.
    c. sales less cost of goods sold.
    d. sales less cost of goods sold and selling and administrative costs.

Ans: C, LO 6, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounting.

80. If all units produced are sold during a period for a business, then the total expenses on a traditional income statement compared to those presented on a contribution margin income statement
    a. are equal.
    b. are greater.
    c. are lower.
    d. vary with the amount of sales.

Ans: A, LO 6, Bloom: C, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

81. A contribution margin income statement is organized by
    a. function.
    b. cost behavior.
    c. product vs. period costs.
    d. operating vs. nonoperating costs.

Ans: B, LO 6, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounting.

82. Which of the following business activities would **not** be considered a value-added activity in the value chain of a business?
    a. Research & Development
    b. Distribution
    c. Inspection and Rework
    d. Design

Ans: C, LO 6, Bloom: K, Difficulty: Easy, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Business Acumen & Operations: Operational Knowledge.

83. At a sales level of $300,000, Ben's Burgers' gross margin is $50,000 less than its contribution margin. If its operating income is $75,000, and total SG&A expenses are $30,000, what is the contribution margin of Ben's Burgers?
    a. $145,000
    b. $155,000
    c. $195,000
    d. $245,000

Ans: B, LO 6, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting.
Solution: Operating Income + Total SG&A expenses = Gross Margin; $75,000 + $30,000 = $105,000 Gross Margin; Contribution Margin = Gross Margin, $105,000 + $50,000 = $155,000.

84. At a sales level of $100,000, Bonita's Baskets' gross margin of $55,000 is $20,000 less than its contribution margin. If its operating income is $25,000, and total SG&A expenses are $30,000, what are the variable and fixed costs for Bonita's Baskets?
    a. Variable,$25,000 and Fixed, $50,000
    b. Variable,$50,000 and Fixed, $25,000
    c. Variable,$35,000 and Fixed, $40,000
    d. Variable,$40,000 and Fixed, $35,000

Ans: A, LO 6, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Contribution Margin = Gross Margin, $55,000 + $20,000 = $75,000; Variable Costs = Sales – Contribution Margin = $100,000 - $75,000 = $25,000; Fixed Costs = Contribution Margin – Operating Income = $75,000 - $25,000 = $50,000.

85. Zenco Machine and Tools currently prices its hammers at $12 per unit. The corresponding unit variable cost is $7 and the unit fixed cost is $2 per when 10,000 hammers are produced and sold. Zenco is considering increasing the price of its hammers to $15 since its suppliers have increased the cost of the materials used in production which has caused the unit variable cost to increase to $8. What is Zenco's projected operating income with the new unit selling price and new unit variable cost if it is only able to produce and sell 8,000 hammers?

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a. $30,000
b. $36,000
c. $40,000
d. $56,000

Ans: B, LO 6, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting.
Solution: New Unit Selling Price – New Unit Variable Cost = New Unit Contribution margin; $15 - $8 = $7 x 8,000 = $56,000 New Contribution Margin; Operating Income = New Contribution Margin – Fixed Costs = $56,000 – ($2 x 10,000) = $36,000.

86. Yum Yum Bakery Shop has the following information for the current fiscal year:

Total Sales	$350,000
COGS – Variable	150,000
COGS – Fixed	50,000
SG&A – Variable	22,000
SG&A - Fixed	13,000

The contribution margin for Yum Yum Bakery Shop is
a. $128,000
b. $150,000
c. $178,000
d. $315,000

Ans: C, LO 6, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting.
Solution: Contribution Margin = Sales – COGS-Variable – SG&A-Variable = $350,000 - $150,000 - $22,000 = $178,000.

87. Creative Crafts, Inc. has the following information for the current fiscal year:

Total Sales	$400,000
COGS – Variable	133,000
COGS – Fixed	52,000
SG&A – Variable	28,000
SG&A - Fixed	16,000

The gross margin for Creative Crafts, Inc. is
a. $171,000
b. $187,000
c. $215,000
d. $267,000

Ans: C, LO 6, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting.
Solution: Gross Margin = Sales – COGS-Variable – COGS- Fixed = $400,000 - $133,000 - $52,000 = $215,000.

88. Nyce Vending has the following information for the current fiscal year:

COGS – Variable	$85,000
COGS – Fixed	43,000
SG&A – Variable	26,000
SG&A - Fixed	14,000
Operating Income	55,000

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The Sales for Nyce Vending are
a. $166,000
b. $168,000
c. $209,000
d. $223,000

Ans: D, LO 6, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounitng, Strategy, Planning & Performance: Strategic Cost Management.
Solution: Sales = COGS-Variable + COGS-Fixed + SG&A-Variable + SG&A-Fixed + Operating Income = $85,000 + $43,000 - $26,000 + $14,000 + $55,000 = $223,000.

89. Harper's Hunting and Fishing has the following information for the current fiscal year:

COGS – Variable	$225,000
COGS – Fixed	73,000
SG&A – Variable	38,000
SG&A - Fixed	23,000
Contribution Margin	245,000

The Sales for Harper's Hunting and Fishing are
a. $306,000
b. $508,000
c. $543,000
d. $581,000

Ans: B, LO 6, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting & Control: Cost Accounting.
Solution: Sales = COGS-Variable + SG&A-Variable + Contribution Margin = $225,000 + $38,000 + $245,000 = $508,000.

BRIEF EXERCISES

90. Bert's Business purchased equipment in 2 years ago at a cost $120,000. Last year, Bert had the equipment repaired at a cost of $5,000. In the current year, Bert is faced with the following alternatives: (1) pay for additional repairs for the equipment at a cost of $8,000; or (2) purchase new equipment at a cost of $144,000. The old equipment will have a trade-in value of approximately $20,000. What amount of the equipment costs represent sunk costs?

Ans: Total Sunk Costs = $125,000
Solution: Original Equipment Cost + Equipment Repair Cost (last year) = $120,000 + $5,000

LO 1, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Original Equipment Cost + Equipment Repair Cost (last year) = $120,000 + $5,000

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91. The following transactions occurred during the month of April for Nico's Nursery:

April 4 Purchased 500 plants for at a total cost of $250 on account.
5 Purchased 700 containers for the plants at a cost of $175 paying cash.
9 Purchased and used fertilizer and plant food for the plants for cash, $68.
16 Purchased an additional 200 plants for cash of $100.

Determined the total expenses, total assets and total expenditures for Nico's Nursery for April.

Ans: Total Expenses = $68
Total Assets = $525
Total Expenditures = $343

Solution: Total Expenses = Fertilizer and Plant Food = $68
Total Assets = Purchased Plants and Containers (Inventory) = $250 + $175 + $100 = $525
Total Expenditures = Cash Outflows = $175 + $68 + $100 = $343

LO 1, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Total Expenses = Fertilizer and Plant Food = $68; Total Assets = Purchased Plants and Containers (Inventory) = $250 + $175 + $100 = $525; Total Expenditures = Cash Outflows = $175 + $68 + $100 = $343

92. Carnival Cruises breaks down its revenue and cost information for the year ended 2022 as follows:

Total Revenue	$20,825,000
Cost of Revenue	12,909,000
Gross Profit	7,916,000
Operating Expenses	4,640,000
Operating Income	3,276,000

Perform vertical analysis for the income statement for Carnival Cruises. (Round to nearest whole percentage)

Ans:

Total Revenue	$20,825,000	100%
Cost of Revenue	12,909,000	62%
Gross Profit	7,916,000	38%
Operating Expenses	4,640,000	22%
Operating Income	3,276,000	16%

Solution:

Total Revenue	Total Revenue	$20,825,000	100%	(20,825,000 ÷ 20,825,000)
Cost of Revenue	Cost of Revenue	12,909,000	62%	(12,909,000 ÷ 20,825,000)
Gross Profit	Gross Profit	7,916,000	38%	(7,916,000 ÷ 20,825,000)
Operating Expenses	Operating Expenses	4,640,000	22%	(4,640,000 ÷ 20,825,000)
Operating Income	Operating Income	3,276,000	16%	(3,276,000 ÷ 20,825,000)

LO 1, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Financial Statement Analysis.

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Solution: Using Total Revenue as the base, all items are then divided by the Total Revenue of $20,825,000; Total Revenue, 100% = (20,825,000 ÷ 20,825,000); Cost of Revenue = 62% = (12,909,000 ÷ 20,825,000); Gross Profit = 38%= (7,916,000 ÷ 20,825,000); Operating Expenses = 22% = (4,640,000 ÷ 20,825,000); Operating Income = 16% = (3,276,000 ÷ 20,825,000).

93. Given the following information for C & J, Inc. identify where the items will be classified (asset or expense, or not reported) and on which financial statement the items will reported (income statement, balance sheet, or N/A).

Cost Item	Classification	Financial Statement
Research and Development		
Prepaid Expenses		
Cost of Goods Sold		
Selling, General and Administrative		
Inventory		
Opportunity Cost		

Ans and Solution:

Cost Item	Classification	Financial Statement
Research and Development	Expense	Income Statement
Prepaid Expenses	Asset	Balance Sheet
Cost of Goods Sold	Expense	Income Statement
Selling, General and Administrative	Expense	Income Statement
Inventory	Asset	Balance Sheet
Opportunity Cost	Not Reported	N/A

LO 1, Bloom: C, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

94. Match the following definitions to the appropriate term.

_____	1. Opportunity Cost	a. A cash outflow
_____	2. Sunk Cost	b. A resource sacrificed to bring benefit in current period; no remaining future benefit
_____	3. Expenditure	c. A measure of a resource being sacrificed; includes assets and expenses.
_____	4. Asset	d. Costs already incurred in the past
_____	5. Expense	e. Net benefit of paths not taken in decision-making
_____	6. Cost	f. Resource with future benefits

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

Ans and Solution:

E	1. Opportunity Cost	A. A cash outflow
D	2. Sunk Cost	B. A resource sacrificed to bring benefit in current period; no remaining future benefit
A	3. Expenditure	C. A measure of a resource being sacrificed; includes assets and expenses.
F	4. Asset	D. Costs already incurred in the past
B	5. Expense	E. Net benefit of paths not taken in decision-making
C	6. Cost	F. Resource with future benefits

LO 1, Bloom: K, Difficulty: Medium, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

95. Window Wizards Manufacturing's information is presented below for the current month:

Raw Materials Inventory	$10,500
Prepaid Expenses	8,300
Research and Development	3,520
Cost of Goods Sold	26,130
Depreciation	1,423
Work-In-Process Inventory	3,450
Cash	6,230
Selling, General and Administrative	12,840
Finished Goods Inventory	18,190
Accounts Receivable	7,140

Compute the total current assets for Window Wizards Manufacturing.

Ans: Total current assets = $53,810

Solution: Cash, $6,230 + Accounts Receivable, $7,140 + Raw Materials Inventory, $10,500 + Work-In- Process Inventory, $3,450 + Finished Goods Inventory, $18,190 + Prepaid Expenses, $8,300 = $53,810

LO 2, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting & Control: Cost Accounting.
Solution: Cash, $6,230 + Accounts Receivable, $7,140 + Finished Goods Inventory, $18,190 + Work-In- Process Inventory, $3,450 + Raw Materials Inventory, $10,500 + Prepaid Expenses, $8,300 = $53,810

96. Bestco Products has total inventory balances of $330,000. If 1/6 of the balance reflects goods that are completed and ready for sale, and 3/6 represents materials not yet placed into production, what are the balances in each of the three inventory categories for this manufacturer?

Ans: Raw Materials Inventory = $165,000
Work-In-Process Inventory = $110,000
Finished Goods Inventory = $55,000

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

Solution: Raw Materials Inventory = $330,000 x 3/6 = $165,000
Work-In-Process Inventory = $330,000 x 2/6 = $110,000
Finished Goods Inventory = $330,000 x 1/6 = $55,000

Ans: Raw Materials Inventory = $165,000; Work-In-Process Inventory = $110,000; Finished Goods Inventory = $55,000, LO 2, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting & Control: Cost Accounting.
Solution: Raw Materials Inventory = $330,000 x 3/6 = $165,000; Work-In-Process Inventory = $330,000 x 2/6 = $110,000; Finished Goods Inventory = $330,000 x 1/6 = $55,000

97. If Midwest Plastics has a Gross Margin of $68,000, Finished Goods Inventory (beginning)of $26,000, Sales Revenues of $193,000, Operating Expenses of $52,000, and Finished Goods Inventory (ending) of $38,000. What is Midwest Plastics' Cost of Goods Sold?

Ans: $125,000
Solution: Sales Revenues, $193,000 – Gross Margin, $68,000 =
Cost of Goods Sold, $125,000

LO 2, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting & Control: Cost Accounting.
Solution: Sales Revenues, $193,000 – Gross Margin, $68,000 = Cost of Goods Sold, $125,000

98. Given the following items listed below, identify on which type(s) of business financial statements these items would normally appear: A. Service Provider, B. Merchandiser, and/or C. Manufacturer. More than one selection may be included in an answer.

_____ 1. Raw Materials Inventory
_____ 2. Operating Expenses
_____ 3. Cost of Goods Sold
_____ 4. Finished Goods Inventory
_____ 5. Gross Margin
_____ 6. Operating Income
_____ 7. Work-In-Process Inventory
_____ 8. Merchandise Inventory

Ans: 1. C 2. A, B, C 3. B, C 4. C 5. B, C 6. A, B, C 7. C 8. B

LO 2, Bloom: K, Difficulty: Medium, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounting.

99. The following information is included below for Golden Gadgets:

Raw Materials Inventory	$ 7,500
Cost of Goods Sold (Product)	42,140
Depreciation	11,253
Work-In-Process Inventory	13,489
Cash	19,710
Revenues (Product)	105,328
Selling, General and Administrative	6,840
Finished Goods Inventory	5,190
Accounts Receivable	16,530

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

Compute the Gross Margin for Golden Gadgets.

Ans: $63,188

Solution: Revenues, $105,328 – Cost of Goods Sold, $42,140 = Gross Margin, $63,188

Ans: Gross Margin (Product) = $63,188, LO 2, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting & Control: Cost Accounting.
Solution: Revenues, $105,328 – Cost of Goods Sold, $42,140 = Gross Margin, $63,188

100. Yogo Factory reports the following costs and expenses for the month of August

Factory Equipment Rent	$ 4,500	Sales Commissions	$ 430
Direct Materials Used	12,320	Factory Repairs	1,290
Factory Supervisor's Salary	5,490	Advertising	4,830
Sales Salaries and Wages	21,480	Factory Utilities	5,840
Factory Building Depreciation	6,210	Delivery Costs	3,570

What is the total "Manufacturing Overhead" for Yogo Factory for August?

Ans: $23,330

Solution: Manufacturing Overhead = Factory Equipment Rent + Factory Supervisor's Salary + Factory Building Depreciation + Factory Repairs + Factory Utilities = $4,500 + $5,490 + $6,210 + $1,290 + $5,840 = $23,330

LO 3, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Manufacturing Overhead = Factory Equipment Rent + Factory Supervisor's Salary + Factory Building Depreciation + Factory Repairs + Factory Utilities = $4,500 + $5,490 + $6,210 + $1,290 + $5,840 = $23,330

101. Winter Widgets reported the following costs and expenses for the month of December:

Factory Equipment Depreciation	$4,500	Direct Labor	$34,200
Direct Materials Used	25,320	Factory Repairs	1,290
Factory Supervisor's Salary	5,490	Advertising	3,830
Sales Salaries and Wages	21,480	Factory Utilities	5,840
Factory Building Rent	6,210	Delivery Costs	4,570

What is the total "Manufacturing Cost" for Winter Widgets for December?

Ans: $82,850

Solution: Total Manufacturing Cost = Direct Materials + Direct Labor + Manufacturing Overhead; Manufacturing Overhead = Factory Equipment Depreciation + Factory Supervisor's Salary + Factory Building Rent + Factory Repairs + Factory Utilities = $4,500 + $5,490 + $6,210 + $1,290 + $5,840 = $23,330 MOH; DM, $25,320 + DL, $34,200 + MOH, $23,330 = $82,850

LO 3, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Total Manufacturing Cost = Direct Materials + Direct Labor + Manufacturing Overhead; Manufacturing Overhead = Factory Equipment Depreciation + Factory Supervisor's Salary + Factory Building Rent + Factory Repairs + Factory Utilities = $4,500 + $5,490 + $6,210 + $1,290 + $5,840 = $23,330, MOH; DM, $25,320 + DL, $34,200 + MOH, $23,330 = $82,850

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

102. Sierra Ski, Inc. reported the following costs and expenses for the month of January:

Office Equipment Depreciation	$4,700	Direct Labor	$24,600
Direct Materials Used	31,250	Manufacturing Overhead	32,790
Sales Salaries	25,940	Advertising	13,420

What are the amounts for "Prime Costs" and "Conversion Costs" for Sierra Ski, Inc. for January?

Ans: Prime Costs = $55,850 and Conversion Costs = $57,390
Solution: Total Prime Costs = Direct Materials Used + Direct Labor = $31,250 + $24,600 = $55,850; Total Conversion Costs = Direct Labor + Manufacturing Overhead = $24,600 + $32,790 = $57,390

LO 3, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Total Prime Costs = Direct Materials Used + Direct Labor = $31,250 + $24,600 = $55,850; Total Conversion Costs = Direct Labor + Manufacturing Overhead = $24,600 + $32,790 = $57,390

103. Buford is interested in raising money for charity by opening his own custom lemonade shop. Instead of buying the lemonade premixed, he plans to make his lemonade from scratch in the shop. He has questions about the reporting of the following costs and expenses, as to whether they are product costs or period costs so that he can properly identify the costs to make one eight-ounce cup of lemonade and then, properly price the cup of lemonade to make a profit. Identify each of the costs as either a "product" cost or a "period" cost to help Buford.

1. Production Equipment Depreciation		6. Direct Labor	
2. Shop Rent (Production Facilities)		7. Direct Materials Used	
3. Production Supervisor's Salary		8. Advertising	
4. Sales Salaries and Wages		9. Shop Utilities (Production)	
5. Production Equipment Repairs		10. Delivery Costs	

Ans:

1. Production Equipment Depreciation	Product	6. Direct Labor	Product
2. Shop Rent (Production Facilities)	Product	7. Direct Materials Used	Product
3. Production Supervisor's Salary	Product	8. Advertising	Period
4. Sales Salaries and Wages	Period	9. Shop Utilities (Production)	Product
5. Production Equipment Repairs	Product	10. Delivery Costs	Period

LO 3, Bloom: C, Difficulty: Medium, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

104. Skye Corporation reported the following costs and expenses for the month of May, which need to be classified as either a direct cost or an indirect cost:

Factory Equipment Depreciation		Factory Repairs	
Direct Materials Used		Factory Insurance	
Factory Supplies		Factory Supervisor's Salary	
Factory Rent		Direct Labor Used	

Classify these costs as either "direct" costs or "indirect" costs for Skye Corporation?

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

Ans:

1. Factory Equipment Depreciation	Indirect	5. Factory Repairs	Indirect
2. Direct Materials Used	Direct	6. Factory Insurance	Indirect
3. Factory Supplies	Indirect	7. Factory Supervisor's Salary	Indirect
4. Factory Rent	Indirect	8. Direct Labor Used	Direct

LO 3, Bloom: C, Difficulty: Medium, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

105. Tristate Table Manufacturers incurred the following costs for the current month:

1. Factory equipment rent		6. Salary of factory supervisor	
2. Depreciation on factory (straight-line)		7. Hardware used in assembling tables (screws and washers)	
3. Wages of assembly-line workers		8. Factory insurance	
4. Wood used in the table		9. Wages of table artisans	
5. Factory property taxes		10. Paint/varnish for finishing tables	

Identify the costs shown above as either variable costs or fixed costs.

Ans:

1. Factory equipment rent	Fixed	6. Salary of factory supervisor	Fixed
2. Depreciation on factory (straight-line)	Fixed	7. Hardware used in assembling tables (screws and washers)	Variable
3. Wages of assembly-line workers	Variable	8. Factory insurance	Fixed
4. Wood used in the table	Variable	9. Wages of table artisans	Variable
5. Factory property taxes	Fixed	10. Paint/varnish for finishing tables	Variable

LO 4, Bloom: C, Difficulty: Medium, AACSB: None, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

106. Determine the missing amounts in the following set of data:

	100 units	400 units
Unit Selling Price	$20.00	$20
Unit Variable Cost	$8.00	(c)
Unit Fixed Cost	$5.00	(d)
Profit per Unit	(a)	(e)
Total Profit	(b)	(f)

Ans: (a) $7.00 (b) $700.00 (c) $8.00 (d) $1.25 (e) $ 10.75 (f) $4,300.00
Solution:
(a) $20.00 – ($8.00 + $5.00) = $7.00
(b) $7.00 [from (a)] x 100 units = $700
(c) $8.00; unit variable cost same
(d) [100 units x $5.00] ÷ 400 units = $1.25
(e) $20.00 – [$8.00 + $1.25 from (d)] = $10
(f) $10.75 [from (a)] x 400 units = $4,300

LO 4, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

Solution: (a) $20.00 – ($8.00 + $5.00) = $7.00; (b) $7.00 [from (a)] x 100 units = $700.00; (c) $8.00; variable cost per unit stays the same; (d) [100 units x $5.00] ÷ 400 units = $1.25; (e) $20.00 – [$8.00 + $1.25 from (d)] = $10.75; (f) $10.75 [from (a)] x 400 units = $4,300

107. The following costs were incurred by Birdie's Bikes for the month of July:

1. Factory equipment rent	$7,700	6. Salary of factory supervisor	4,760
2. Bike tires	2,430	7. Bike chains	3,780
3. Wages of assembly-line workers	10,920	8. Factory insurance	2,190
4. Bike frames	7,850	9. Bike hardware (screws, caps, etc.)	2,270
5. Factory property taxes	2,460	10. Handlebar assemblies	3,140

Determine the total variable costs and total fixed costs for Birdie's Bikes for the month of July.

Ans: Total variable costs = $30,390; Total fixed costs = $17,110
Solution: Total variable costs = Bike tires + Wages of assembly-line workers + Bike frames + Bike chains + Bike hardware + Handlebar assemblies = $2,430 + $10,920 + $7,850 + $3,780 + $2,270 + $3,140 = $30,390; Total fixed costs = Factory equipment rent + Factory property taxes + Salary of factory supervisor + Factory insurance = $7,700 + $2,460 + $4,760 + $2,190 = $17,110

LO 4, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Total variable costs = Bike tires + Wages of assembly-line workers + Bike frames + Bike chains + Bike hardware + Handlebar assemblies = $2,430 + $10,920 + $7,850 + $3,780 + $2,270 + $3,140 = $30,390; Total fixed costs = Factory equipment rent + Factory property taxes + Salary of factory supervisor + Factory insurance = $7,700 + $2,460 + $4,760 + $2,190 = $17,110

108. Identify the following statements as correct or **incorrect** regarding cost behavior.

1. Variable costs change in total and per unit when a given level of activity level changes.
2. Fixed costs remain the same in total but change inversely with a given change in an activity level.
3. The relevant range relates to all levels of activity even if it extends beyond the current capacity of the company.
4. Variable costs and fixed costs will always change on a per unit basis when the activity level changes.

Ans:
1. Incorrect - Variable costs change in total but not on a per unit basis. Variable unit costs remain the same when the activity level changes.
2. Correct
3. Incorrect – The relevant range only relates to levels of activity within the current capacity.
4. Incorrect. Variable unit costs remain the same when the activity level changes whereas, fixed unit costs will change, inversely with the change in the activity level.

LO 4, Bloom: K, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

109. If Meyers Manufacturing currently incurs a variable cost per unit of $19.00 and a fixed cost per unit of $14.00 when it produces 1,000 units, what will the unit variable cost and unit fixed cost be when it produces $10,000 units?

Ans: Unit variable cost = $19.00 and Unit fixed cost = $1.40
Solution: Unit variable cost will not change with the change in the level of activity, so it remains at $19.00; however, the unit fixed cost = (1,000 units x $14) = $14,000 initial fixed costs ÷ 10,000 units (new level) = $1.40

LO 4, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Unit variable cost will not change with the change in the level of activity, so it remains at $19.00; however, the unit fixed cost = (1,000 units x $14) = $14,000 initial fixed costs ÷ 10,000 units (new level) = $1.40

110. If Ciaxis Inc. has $0 in its Direct Materials Inventory (beginning), and $9,300 in its Direct Materials Inventory (ending), and purchased $28,400 of direct materials during the period, what amount of direct materials was used in production by Ciaxis during the period?

Ans: Direct materials used = $19,100
Solution: Direct Materials Inventory (beginning) + Direct Materials Purchases – Direct Materials Inventory (ending) = Direct Materials Used during the Period; $0 + $28,400 – $9,300 = $19,100

LO 5, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting & Control: Cost Accounting.
Solution: Direct Materials Inventory (beginning) + Direct Materials Purchases – Direct Materials Inventory (ending) = Direct Materials Used; $0 + $28,400 - $9,300 = $19,100 DM used

111. If Work-In-Process Inventory has a balance of $4,200 at the beginning of the month, direct materials used in production totaled $10,000, direct labor used in production totaled $15,000, and manufacturing overhead applied totaled $3,700, what is the ending balance in the Work-In-Process Inventory at the end of the month, if none of the units are completed and transferred to finished goods inventory?

Ans: Work-In-Process Inventory (ending) = $32,900
Solution: Work-In-Process Inventory (ending) = Work-In-Process Inventory (beginning) + Direct Materials Used + Direct Labor + Manufacturing Overhead Applied = $4,200 + $10,000 + $15,000 + $3,700 = $32,900

LO 5, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting & Control: Cost Accounting.
Solution: Work-In-Process Inventory (ending) = Work-In-Process Inventory (beginning) + Direct Materials Used + Direct Labor + Manufacturing Overhead Applied = $4,200 + $10,000 + $15,000 + $3,700 = $32,900

112. Miriad Manufacturers has the following information for the month of September:

Work-In-Process Inventory (ending)	$10,000
Finished Goods Inventory (beginning)	12,000
Total Manufacturing Costs	89,000
Sales and Advertising Costs	25,000
Finished Goods Inventory (ending)	18,000
Work-In-Process Inventory (beginning)	13,000

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Determine the Cost of Goods Manufactured for Miriad Manufacturers for September.

Ans: Cost of Goods Manufactured = $92,000
Solution: Cost of Goods Manufactured = Work-In-Process Inventory (beginning) + Total Manufacturing Costs – Work-In-Process Inventory (ending) = $13,000 + $89,000 - $10,000 = $92,000

LO 5, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Cost of Goods Manufactured = Work-In-Process Inventory (beginning) + Total Manufacturing Costs – Work-In-Process Inventory (ending) = $13,000 + $89,000 - $10,000 = $92,000

113. Crescent Computers, Inc. has the following information for the month of October:

Work-In-Process Inventory (ending)	$20,000
Finished Goods Inventory (beginning)	22,000
Cost of Goods Manufactured	71,000
Total Manufacturing Costs	68,000
Sales and Advertising Costs	26,000
Finished Goods Inventory (ending)	38,000
Work-In-Process Inventory (beginning)	23,000

Determine the Cost of Goods Sold for Crescent Computers for October.

Ans: Cost of Goods Sold = $55,000
Solution: Cost of Goods Sold = Finished Goods Inventory (beginning) + Cost of Goods Manufactured – Finished Goods Inventory (ending) = $22,000 + $71,000 - $38,000 = $55,000

LO 5, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Cost of Goods Sold = Finished Goods Inventory (beginning) + Cost of Goods Manufactured – Finished Goods Inventory (ending) = $22,000 + $71,000 - $38,000 = $55,000

114. Prepare the journal entry for the following production activity for the current week:

- Incurred $5,600 of manufacturing overhead in production of goods for utilities.
- Incurred direct labor costs of $37,200 in production of goods.
- Direct materials of $13,700 were requisitioned for production.

Ans:

	Debit	Credit
Work-In-Process Inventory	56,500	
Raw Materials Inventory		13,700
Wages Payable		37,200
Utilities Payable		5,600

LO 5, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounting.

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115. Country Cookers has the following information for the current fiscal year:

Total Sales	$300,000
COGS – Variable	123,000
COGS – Fixed	67,000
SG&A – Variable	34,000
SG&A - Fixed	26,000

Determine the gross margin for County Cookers.

Ans: Gross Margin = $110,000
Solution: Total Sales – COGS-Variable – COGS-Fixed = $300,000 - $123,000 - $67,000 = $110,000

LO 6, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting & Control: Cost Accounting.
Solution: Total Sales – COGS-Variable – COGS-Fixed = $300,000 - $123,000 - $67,000 = $110,000

116. Zebra Zingers has the following information for the current fiscal year:

Total Sales	$550,000
COGS – Variable	243,000
COGS – Fixed	122,000
SG&A – Variable	75,000
SG&A - Fixed	46,000

Determine the contribution margin for Zebra Zingers.

Ans: Contribution Margin = $232,000
Solution: Total Sales – COGS-Variable – SG&A-Variable = $550,000 - $243,000 – $75,000 = $232,000

LO 6, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting & Control: Cost Accounting.
Solution: Total Sales – COGS-Variable – SG&A-Variable = $550,000 - $243,000 - $75,000 = $232,000

117. Compute the missing amounts in the table below:

	Sales	Variable Costs	Contribution Margin	Fixed Costs	Operating Income
(1)	$150,000	(a)	$90,000	$40,000	(b)
(2)	(c)	$77,000	$45,000	(d)	$20,000
(3)	$265,000	$73,000	(e)	$89,000	(f)

Ans: (a) $60,000 (b) $50,000 (c) $122,000 (d) $25,000 (e) $192,000 (f) $103,000
Solution:
(a) Sales – Contribution Margin = Variable Costs; $150,000 - $90,000 = $60,000
(b) Contribution Margin – Fixed Costs = Operating Income; $90,000 - $40,000 = $50,000
(c) Variable Costs + Contribution Margin = Sales; $77,000 + $45,000 = $122,000
(d) Contribution Margin – Operating Income = Fixed Costs; $45,000 - $20,000 = $25,000
(e) Sales – Variable Costs = Contribution Margin; $265,000 - $73,000 = $192,000
(f) Contribution Margin – Fixed Costs = Operating Income; $192,000 (e) - $89,000 = $103,000

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Solution: (a) Sales – Contribution Margin = Variable Costs; $150,000 - $90,000 = $60,000; (b) Contribution Margin – Fixed Costs = Operating Income; $90,000 - $40,000 = $50,000; (c) Variable Costs + Contribution Margin = Sales; $77,000 + $45,000 = $122,000; (d) Contribution Margin – Operating Income = Fixed Costs; $45,000 - $20,000 = $25,000; (e) Sales – Variable Costs = Contribution Margin; $265,000 - $73,000 = $192,000; (f) Contribution Margin – Fixed Costs = Operating Income; $192,000 (e) - $89,000 = $103,000

118. Compute the missing amounts in the table below:

	Sales	Cost of Goods Sold	Gross Margin	SG&A Expenses	Operating Income
(1)	$250,000	(a)	$120,000	$65,000	(b)
(2)	(c)	$97,000	$58,000	(d)	$32,000
(3)	$198,000	$62,000	(e)	$73,000	(f)

Ans: (a) $130,000 (b) $55,000 (c) $155,000 (d) $26,000 (e) $136,000 (f) $63,000
Solution:
(a) Sales – Gross Margin = Cost of Goods Sold; $250,000 - $120,000 = $130,000
(b) Gross Margin – SG&A Expenses = Operating Income; $120,000 - $65,000 = $55,000
(c) Cost of Goods Sold + Gross Margin = Sales; $97,000 + $58,000 = $155,000
(d) Gross Margin – Operating Income = SG&A Expenses; $58,000 - $32,000 = $26,000
(e) Sales – Cost of Goods Sold = Gross Margin; $198,000 - $62,000 = $136,000
(f) Gross Margin – SG&A = Operating Income; $136,000 (e) - $73,000 = $63,000

LO 6, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting & Control: Cost Accounting.
Solution: (a) Sales – Gross Margin = Cost of Goods Sold; $250,000 - $120,000 = $130,000; (b) Gross Margin – SG&A Expenses = Operating Income; $120,000 - $65,000 = $55,000; (c) Cost of Goods Sold + Gross Margin = Sales; $97,000 + $58,000 = $155,000; (d) Gross Margin – Operating Income = SG&A Expenses; $58,000 - $32,000 = $26,000; (e) Sales – Cost of Goods Sold = Gross Margin; $198,000 - $62,000 = $136,000; (f) Gross Margin – SG&A = Operating Income; $136,000 (e) - $73,000 = $63,000

119. Speedy Sneakers, Inc. has the following information for the current fiscal year:

Total Sales	$620,000
COGS – Variable	214,000
COGS – Fixed	167,000
SG&A – Variable	48,000
SG&A - Fixed	39,000

Determine the gross margin for Speedy Sneakers, Inc.

Ans: Gross Margin = $239,000
Solution: Total Sales – COGS-Variable – COGS-Fixed = $620,000 - $214,000 - $167,000 = $239,000

LO 6, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting & Control: Cost Accouting.
Solution: Total Sales – COGS-Variable – COGS-Fixed = $620,000 - $214,000 - $167,000 = $239,000

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EXERCISES

120. White Water Springs Rafting Company has the following cost data for its first year of operations:

Cost of Goods Sold	$68,000	Advertising	$5,000
Salaries and Wages	29,000	Cost of Land (for a New Building)	89,000
Cost of Equipment (New)	37,000	Research and Development	4,200
Building Rent	24,000	Utilities	6,300

Given these costs, first classify the costs as expenses or assets, and then, total the amounts.

Ans: Expenses are Cost of Goods Sold, Salaries and Wages, Building Rent, Advertising, Research and Development, and Utilities. Assets include the Cost of Equipment (New) and the Cost of Land (for a New Building); Total Expenses = $136,500 Total Assets = $126,000
Solution: Total Expenses = $136,500 = Cost of Merchandise Sold, $68,000 + Salaries and Wages, $29,000 + Building Rent, $24,000 + Adverting, $5,000 + Research and Development, $4,200 + Utilities, $6,300; Total Assets = $126,000 = Cost of Equipment (New), $37,000 + Cost of Land (for a New Building), $89,000

LO 1, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, IMA: C Strategy, Planning & Performance: Strategic Cost Management
Solution: Total Expenses = $136,500 = Cost of Goods Sold, $68,000 + Salaries and Wages, $29,000 + Building Rent, $24,000 + Adverting, $5,000 + Research and Development, $4,200 + Utilities, $6,300; Total Assets = $126,000 = Cost of Equipment (New), $37,000 + Cost of Land for a New Building, $89,000)

121. Maya has been invited to attend a free accounting conference in Myrtle Beach, SC next month. She is planning travel arrangements for this trip, which will be reimbursed by the college where she works. She is considering the following options for traveling:

Air: Flight (round-trip): $450 (1.5 hours each way
Parking at airport: (3 days at $15 per day
Rental Car: $200
Drive: (1,200 miles in total at $.56 per mile - 9.5 hrs. each way

Which option proves to be the least costly option for Maya to travel to the conference?

Ans: Driving is the least costly option at $672.
Solution: Air: $450 + (3 x $45) + $200 = $695 or Drive: 1,200 x $.56/mile = $672

LO 1, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, IMA: Strategy, Planning & Performance: Strategic Cost Management
Solution: Air: $450 + (3 x $45) + $200 = $695 or Drive: 1,200 x $.56/mile = $672

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122. You have been presented with the following financial information for GenX Company:

	2024
Revenues	$2,100,000
Cost of Goods and Services Sold	829,000
Gross Profit	1,271,000
Selling, General and Administrative Expenses	543,200
Other Costs and Expenses - Operating	40,800
Operating Income	687,000

You have been asked to prepare a vertical analysis for the income statement for current year. (Round percentages to one decimal place)

Ans:

	2024	%
Revenues	$2,100,000	100.0
Cost of Goods and Services Sold	829,000	39.5
Gross Profit	1,271,000	60.5
Selling, General and Administrative Expenses	543,200	25.9
Other Costs and Expenses - Operating	40,800	1.9
Operating Income	687,000	32.7

LO 1, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, IMA: Strategy, Planning & Performance: Strategic Cost Management
Solution: Revenues = $2,100,000/ $2,100,000 = 100%; Cost of Goods and Services Sold = $829,000/$2,100,000 = 39.5%; Gross Profit = $1,271,000/$2,100,000 = 60.5%; Selling, General and Administrative Expenses = $543,200/$2,100,000 = 25.9%; Other Costs and Expenses-Operating = $40,800/$2,100,000 = 1.9%; Operating Income = $687,000/$2,100,000 = 32.7%

123. Xenon Corporation has the following cost and expenditure data available for its first month of operations. Complete the table with the data indicating whether the cost incurred would be an expense or an asset, and also, compute the total expenditures related to the costs.

Cost Item	Amount	Expense	Asset	Expenditures
Monthly rent (paid in full)	$2,300			
Advertising (50 % paid in cash; balance on credit)	500			
Monthly computer costs (paid in full)	900			
Equipment purchased (30% paid in cash; balance on credit)	4,000			
Salaries and Wages (paid in full)	1,600			
Total	$9,300			

Ans: Total Expenses = $5,300; Total Assets = $4,000; and Total Expenditures = $6,250
Solution:

Cost Item	Amount	Expense	Asset	Expenditures
Monthly rent (paid in full)	$2,300	$2,300		$2,300
Advertising (50 % paid in cash; balance on credit)	500	500		250
Monthly computer costs (paid in full)	900	900		900
Equipment purchased (30% paid in cash; balance on credit)	4,000		$4,000	1,200
Salaries and Wages (paid in full)	1,600	1,600		1,600
Total	$9,300	$5,300	$4,000	$6,250

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Solution: Total Expenses = Monthly rent + Advertising + Monthly computer costs + Salaries and Wages = $2,300 + $500 + $900 + $1,600 = $5,300; Total Assets = Equipment purchased = $4,000; Total Expenditures = Monthly rent + 50% of Advertising + Monthly computer costs + 30% of Equipment Purchased + Salaries and Wages + = $2,300 + (50% x $500) + $900 + (30% x $4,000) + $1,600 = $6,250

124. At year-end, a Hannah's Housekeeping Services had Service Revenue of $128,000. Other pertinent information for the period is shown below:

Salaries and benefits	$ 87,000
Cleaning supplies expenses	5,900
Depreciation – Cleaning Equipment	4,200
Social media advertising	6,500
Cleaning Equipment	55,000
Prepaid expenses	1,300
Insurance expense	600

Prepare an income statement to show the amount of operating income that Hannah's Housekeeping Services earned for this past year?

Ans:

Service Revenue		$128,000
Less: Salaries and benefits	87,000	
Cleaning supplies exp.	5,900	
Depreciation – Cleaning Equip.	4,200	
Social media advertising	6,500	
Insurance expense	600	104,200
Operating Income		$ 23,800

LO 2, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounting.
Solution: Operating Income = Sales Revenue – Salaries and benefits – Cleaning supplies expenses – Depreciation-Cleaning Equip. – Social media advertising – Insurance expense = $128,000 – $87,000 - $5,900 - $4,200 - $6,500 - $600 = $23,800.

125. A & M Retailers has compiled the following information from its accounting records for the current year:

Sales Revenue	$527,000
Cost of Goods Sold	289,000
Selling Expenses	45,000
General and Administrative Expenses	86,000
Merchandise Inventory	73,000
Cash	94,000
Accounts Receivable	21,000
Supplies	4,000

What is the gross margin and operating income for A & Retailers' for the current year?

Ans: Gross margin = $238,000 Operating Income = $107,000
Solution:
Gross Margin = Sales Revenue – Cost of Goods Sold = $527,000 - $289,000 = $238,000; Operating Income = Gross Margin – Selling Expenses – General and Admin. Expenses; $107,000 = $238,000 - $45,000 - $86,000

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LO 2, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting & Control: Cost Accounting.
Solution: Gross Margin = Sales Revenue – Cost of Goods Sold = $527,000 - $289,000 = $238,000; Operating Income = Gross Margin – Selling Expenses – General and Administrative Expenses; $107,000 = $238,000 - $45,000 - $86,000

126. Creative-Closets Manufacturers reports the following information at December 31:

Sales Revenue	$450,000
Cost of Goods Sold	263,000
Selling Expenses	75,000
General and Administrative Expenses	43,000
Raw Materials Inventory	47,000
Work-In-Process Inventory	39,000
Finished Goods Inventory	82,000
Cash	168,000
Accounts Receivable	42,000
Prepaid Expenses	8,000

Compute the amount of total current assets reported for Creative-Closets Manufacturers at year-end by preparing a partial balance sheet?

Ans:

Creative-Closets Manufacturers Partial Balance Sheet December 31, XXXX	
Current Assets	
Cash	168,000
Accounts Receivable	42,000
Finished Goods Inventory	82,000
Work-In-Process Inventory	39,000
Raw Materials Inventory	47,000
Prepaid Expenses	8,000
Total Current Assets	386,000

LO 2, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounting.
Solution: Total Current Assets = Cash + Accounts Receivable + Finished Goods Inventory + Work-In-Process Inventory + Raw Materials Inventory + Prepaid Expenses = $168,000 + $42,000 + $82,000 + $39,000 + $47,000 + 8,000 = $386,000

127. A manufacturer shows total assets of $419,000 and the following additional information:

Cash and Cash Equivalents	$45,000
Property, Plant and Equipment	60,000
Prepaid Expenses	5,000

The composition of total Inventory is 30% Raw Materials Inventory, 50% Work-In-Process Inventory, and 20% Finished Goods Inventory. What dollar amount would be reported for each of the inventory accounts?

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Ans: Raw Materials Inventory = $92,700 Work-In-Process Inventory = $154,500
Finished Goods Inventory = $61,800
Solution:
Total Assets – Cash and Cash Equivalents – Property, Plant and Equipment – Prepaid Expenses = Total Inventory; $419,000 - $45,000 - $60,000 - $5,000 = $309,000; Raw Materials Inventory = 30% x $309,000 = $92,700; Work-In-Process Inventory = 50% x $309,000 = $154,500; Finished Goods Inventory = $309,000 x 20% = $61,800.

LO 2, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting & Control: Cost Accounting.
Solution: Total Assets – Cash and Cash Equivalents – Property, Plant and Equipment – Prepaid Expenses = Total Inventory; $419,000 - $45,000 - $60,000 - $5,000 = $309,000; Raw Materials Inventory = 30% x $309,000 = $92,700; Work-In-Process Inventory = 50% x $309,000 = $154,500; Finished Goods Inventory = $309,000 x 20% = $61,800.

128. At December 31, Puppy Scrub had Service Revenue of $106,000. Other pertinent data is shown below.

Salaries and benefits	$53,000
Rental fees	21,000
Depreciation	3,000
Marketing and selling	2,000
Equipment	28,000
Prepaid expenses	3,000

Compute the net income for Puppy Scrub by preparing an income statement.

Ans:

Puppy Scrub Income Statement December 31, XXXX		
Service Revenue		$106,000
Less: Salaries and benefits	53,000	
Rental fees	21,000	
Depreciation	3,000	
Marketing and Selling	2,000	79,000
Net Income		$27,000

LO 2, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounting.
Solution: Net Income = Sales Revenue – Salaries and benefits – Rental fees – Depreciation - Marketing and selling = $106,000 – $53,000 -$21,000 - $3,000 - $2,000 = $27,000.

129. HomeShop, Inc. incurred the following costs for the current month to produce custom cabinets:

Wood and hinges for cabinets	$178,200	Factory utilities	$11,300
Factory equipment rent	25,700	Office equipment depreciation	9,200
Carpenters' salaries and wages	90,800	Factory manager salary	6,100
Factory insurance	6,300	Factory depreciation	23,000
Office supplies	7,800	Office clerks' wags	7,200

What are the total (a) manufacturing costs and (b) non-manufacturing costs HomeShop?

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Ans: Total Manufacturing Costs = $341,400 and Total Non-Manufacturing Costs = $24,200
Solution: Total Manufacturing Costs = Direct Materials + Direct Labor + Manufacturing Overhead = Wood and hinges for cabinets + Carpenters' salaries and wages + (Factory equipment rent + Factory insurance + Factory Utilities + Factory manager salary + Factory depreciation) = $178,200 + $90,800 + ($25,700 + $6,300 + $11,300 + $6,100 +$23,000) = $341,400; Non-manufacturing costs = Period costs = Office supplies + Office equipment depreciation + Office clerks' wages = $7,800 + $9,200 + $7,200 = $24,200

LO 3, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Total Manufacturing Costs = Direct Materials + Direct Labor + Manufacturing Overhead = Wood and hinges for cabinets + Carpenters' salaries and wages + (Factory equipment rent + Factory insurance + Factory Utilities + Factory manager salary + Factory depreciation) = $178,200 + $90,800 + ($25,700 + $6,300 + $11,300 + $6,100 +$23,000) = $341,400; Non-manufacturing costs = Period costs = Office supplies + Office equipment depreciation + Office clerks' wages = $7,800 + $9,200 + $7,200 = $24,200

130. Castle Cameras incurred the following costs for the month of May in making cameras:

Plastic casings and camera components	$ 241,000	Advertising	$ 21,000
Salespersons' salaries	38,000	Insurance on factory	8,000
Labor costs for camera assemblers	67,000	Office manager salary	5,300
Factory equipment depreciation	24,000	Factory building rent	27,100
Office supplies	16,000	Office utilities	13,200

What are the total product costs and total period costs for Castle Cameras for May based on this information?

Ans: Total Product Costs = $367,100 and Total Period Costs = $93,500
Solution: Total Product Costs = Plastic casings and camera components + Labor costs for camera assemblers + Factory equipment depreciation + Insurance on factory + Factory building rent = $241,000 + $67,000 + $24,000 + $8,000 + $27,100 = $367,100; Total Period Costs = Salespersons' salaries and commissions + Office supplies + Advertising + Office manager salary + Office utilities = $38,000 + $16,000 + $21,000 + $5,300 + $13,200 = $93,500

LO 3, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Total Product Costs = Plastic casings and components + Labor costs for camera assemblers + Factory equipment depreciation + Insurance on factory + Factory building rent = $241,000 + $67,000 + $24,000 + $8,000 + $27,100 = $367,100; Total Period Costs = Salespersons' salaries and commissions + Office supplies + Advertising + Office manager salary + Office utilities = $38,000 + $16,000 + $21,000 + $5,300 + $13,200 = $93,500

131. CarQuest Automotive Parts incurred the following costs for the last month:

Car part materials	$160,800	Office salaries and wages	$ 21,400
Office rent	28,300	Office supplies	3,500
Assembly worker wages	77,200	Factory manager salary	7,200
Factory equipment rent	15,400	Factory utilities	13,600
Office insurance	5,500	Factory supplies	6,100
Factory building depreciation	11,800	Office manager salary	3,900

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Compute total prime costs and the conversion costs for CarQuest Automotive Parts for last month.

Ans: Total Prime Costs = $238.000 Total Conversion Costs = $131,300
Solution: Total Prime Costs = Direct Materials + Direct Labor = Car part materials + Assembly worker wages = $160,800 + $77,200 = $238,000; Total Conversion Costs = Direct Labor + Manufacturing Overhead = $77,200 + $54,100 = $131,300; Direct Labor = Assembly worker wages = $77,200; Manufacturing Overhead = Factory equipment rent + Factory building depreciation + Factory manager salary + Factory utilities + Factory supplies = $15,400 + $11,800 + $7,200 + $13,600 + $6,100 = $54,100.

LO 3, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Total Prime Costs = Direct Materials + Direct Labor = Car part materials + Assembly worker wages = $160,800 + $77,200 = $238,000; Total Conversion Costs = Direct Labor + Manufacturing Overhead = $77,200 + $54,100 = $131,300; Direct Labor = Assembly worker wages = $77,200; Manufacturing Overhead = Factory equipment rent + Factory building depreciation + Factory manager salary + Factory utilities + Factory supplies = $15,400 + $11,800 + $7,200 + $13,600 + $6,100 = $54,100.

132. Santaya, Inc. incurred the costs listed below for the month of June in making its products.

Production materials	$140,900	Salespersons' salaries	$ 59,400
Factory labor	112,500	Insurance on factory	18,200
Advertising	9,200	Factory manager's salary	7,300
Factory equipment depreciation	35,700	Factory rent	29,000
Office supplies	16,100	Factory utilities	14,800

From this list, compute the total product costs and per unit product cost assuming that 10,000 units are produced and sold.

Ans: Total Product Costs = $358,400 Per Unit Product Cost = $35.84
Solution: Total Product Costs = (Production materials + Factory labor + Factory equipment depreciation + Insurance on factory + Factory manager's salary + Factory rent + Factory utilities) = ($140,900 + $112,500 + $35,700 + $18,200 + $7,300 + $29,000 + $14,800) = $358,400; Per Unit Product Cost = Total Product Costs ÷ Units Produced/Sold = $358,400 ÷ 10,000 units = $35.84

LO 3, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Total Product Costs = (Production materials + Factory labor + Factory equipment depreciation + Insurance on factory + Factory manager's salary + Factory rent + Factory utilities) = ($140,900 + $112,500 + $35,700 + $18,200 + $7,300 + $29,000 + $14,800) = $358,400; Per Unit Product Cost = Total Product Costs ÷ Units Produced/Sold = $358,400 ÷ 10,000 units = $35.84

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133. Mystique Manufacturing had sales revenue last year of $450,000, variable manufacturing costs of $135,000, and fixed manufacturing costs of $60,000.
   a) If Mystique expects sales revenues to increase by 20% for the upcoming year, with variable manufacturing costs maintaining the same percentage relationship to sales revenue as in the previous year, with the same fixed manufacturing costs, what will the expected net income (profit) be for Mystique in the upcoming year?
   b) If Mystique expects sales revenues to decrease by 20% for the upcoming year, with variable manufacturing costs maintaining the same percentage relationship to sales revenue as in the previous year, with the same fixed manufacturing costs, what will the expected net income (profit) be for Mystique in the upcoming year?

   Ans: (a) Net Income = $318,000; (b) Net Income = $192,000
   Solution:
   (a) Variable costs ÷ Sales = $135,000 ÷ $450,000 = 30%; Expected Sales = $450,000 x (1 + 20%) = $540,000, Expected Sales – ($540,000 x 30%, Expected Variable Costs) 60,000, Fixed Costs = Expected Net Income, $318,000;
   (b) Variable costs ÷ Sales = $135,000 ÷ $450,000 = 30%; Expected Sales = $450,000 x (1 - 20%) = $495,000, Expected Sales – ($495,000 x 30%, Expected Variable Costs) – $60,000, Fixed Costs = Expected Net Income, $192,000.

LO 4, Bloom: AP, Difficulty: Hard, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting & Control: Cost Accounting.
Solution: (a) Variable costs ÷ Sales = $135,000 ÷ $450,000 = 30%; Expected Sales = $450,000 x (1 + 20%) = $540,000, Expected Sales – ($540,000 x 30%, Expected Variable Costs) – $60,000, Fixed Costs = Expected Net Income, $318,000; (b) Variable costs ÷ Sales = $135,000 ÷ $450,000 = 30%; Expected Sales = $450,000 x (1 - 20%) = $495,000, Expected Sales – ($495,000 x 30%, Expected Variable Costs) – $60,000, Fixed Costs = Expected Net Income, $192,000.

134. Regency Records makes vintage vinyl record albums. It has the following sales and cost data per unit at current production of 100,000 units:

Unit Selling Price	$28.00
Unit Variable Cost	13.50
Unit Fixed Cost	5.30

If Regency were able to increase production by 20% without having to add extra capacity,
   a) What amount of total variable and fixed costs will the company recognize?
   b) What amount of net income will the company recognize?

   Ans: (a) Variable Costs = $1,620,000 Fixed Costs = $530,000 (b) Net Income = $1,210,000
   Solution: (a) Total Costs = Total Variable Costs + Total Fixed Costs = [{Unit Variable Cost x Expected Units, 100,000 units x (1 + 20%)} + (Unit Fixed Cost x original units, 100,000)] = ($13.50 x 120,000) + (5.30 x 100,000 units) = $1,620,000 + $530,000 = $2,150,000;
   (b) Sales Revenue - Total Costs = Net Income; Sales Revenue = Unit Selling Price x Expected Sales = [$28.00 x (100,000 units x (1 + 20%)] = $3,360,000; Sales Revenue, $3,360,000 – Total Costs, $2,150,000 [from (a)] = $1,210,000 Net Income (Profit)

LO 4, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting & Control: Cost Accounting.

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Solution: (a) Total Costs = Total Variable Costs + Total Fixed Costs = [{Unit Variable Cost x Expected Units, 100,000 units x (1 + 20%)} + (Unit Fixed Cost x original units, 100,000)] = ($13.50 x 120,000) + (5.30 x 100,000 units) = $1,620,000 + $530,000 = $2,150,000; (b) Sales Revenue - Total Costs = Net Income; Sales Revenue = Unit Selling Price x Expected Sales = [$28.00 x (100,000 units x (1 + 20%)] = $3,360,000; Sales Revenue, $3,360,000 – Total Costs, $2,150,000 [from (a)] = $1,210,000, Profit

135. Willow Hearth Winery makes local wines. The prior-year, unit selling price for a bottle of its red wine was $30 with a unit variable cost of $14 and a unit fixed cost of $10 based on prior production and sales of 5,000 bottles. For the current year, Willow Hearth Winery is planning to increase the unit selling price to $34 since the unit variable cost increased by 20%.
    a) Assuming that at the higher unit selling price, the company is still able to sell 5,000 bottles, what profit will Willow Hearth Winery expect to recognize for the current year?
    b) Assuming that at the unit higher selling price, the company feels that sales may decrease to 4,500 bottles, what profit will Willow Hearth Winery expect to recognize for the current year?

    Ans: (a) Profit = $36,000 (b) Profit = $27,400
    Solution: (a) Sales Revenue - Total Costs = Profit; Sales Revenue = New Unit Selling Price x Expected Sales = [$34 x 5,000 units = $170,000; Total Costs = Total Variable Costs + Total Fixed Costs = [{Unit Variable Cost x (1 + 20%)} x Expected Units] + (Unit Fixed Cost x Expected Units, 5,000)] = ($14 x 1.2 x 5,000) + ($10 x 5,000 units) = $84,000 + $50,000 =$134,000; Sales Revenue, $170,000 – Total Costs, $134,000 = $36,000 Profit;
    (b) Sales Revenue - Total Costs = Profit; Sales Revenue = New Unit Selling Price x Expected Sales = [$34 x 4,500 units = $153,000; Total Costs = Total Variable Costs + Total Fixed Costs = [{Unit Variable Cost x (1 + 20%)} x Expected Units, 4.500] + (Unit Fixed Cost x Original Units, 5,000)] = ($14 x 1.2 x 4,500) + ($10 x 5,000 units) = $75,600 + $50,000 = $34,000; Sales Revenue, $153,000 – Total Costs, $125,600 = $27,400 Profit

LO 4, Bloom: AP, Difficulty: Hard, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting & Control: Cost Accounting.
Solution: (a) Sales Revenue - Total Costs = Profit; Sales Revenue = New Unit Selling Price x Expected Sales = [$34 x 5,000 units = $170,000; Total Costs = Total Variable Costs + Total Fixed Costs = [{Unit Variable Cost x (1 + 20%)} x Expected Units] + (Unit Fixed Cost x Expected Units, 5,000)] = ($14 x 1.2 x 5,000) + ($10 x 5,000 units) = $84,000 + $50,000 =$134,000; Sales Revenue, $170,000 – Total Costs, $134,000 = $36,000 Profit; (b) Sales Revenue - Total Costs = Profit; Sales Revenue = New Unit Selling Price x Expected Sales = [$34 x 4,500 units = $153,000; Total Costs = Total Variable Costs + Total Fixed Costs = [{Unit Variable Cost x (1 + 20%)} x Expected Units, 4.500] + (Unit Fixed Cost x Original Units, 5,000)] = ($14 x 1.2 x 4,500) + ($10 x 5,000 units) = $75,600 + $50,000 =$134,000; Sales Revenue, $153,000 – Total Costs, $125,600 = $27,400 Profit

136. C & G, Inc. has sales and cost data for the current year below.

Production Units	3,000 units
Sales	$450,000
Variable Costs	150,000
Fixed Costs	110,000

    a) If C & G is able to increase production and sales by 2,000 units without adding extra fixed costs, what will be the unit variable cost and unit fixed cost at 5,000 units?
    b) If C & G is able to increase production and sales by 2,000 units but only by adding extra fixed costs of $20,000, what will be the unit variable cost and unit fixed cost at 5,000 units?

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Ans: (a) Unit Variable Cost = $50 Unit Fixed Cost = $22
(b) Unit Variable Cost = $50 Unit Fixed Cost = $26

Solution: (a) Unit Variable Cost at 5,000 units (3,000 units original + 2,000 additional units); $150,000 ÷ 3,000 units = $50.00 or [($150,000 ÷ 3,000 units) x 5,000 units] ÷ 5,000 units = $50.00; and Unit Fixed Cost at 5,000 units = $110,000 ÷ 5,000 units = $22.00;
(b) Unit Variable Cost at 5,000 units (3,000 units original + 2,000 additional units); $150,000 ÷ 3,000 units = $50.00 or [($150,000 ÷ 3,000 units) x 5,000 units] ÷ 5,000 units = $50.00; and Unit Fixed Cost at 5,000 units = ($110,000 + $20,000) ÷ 5,000 units = $26.00

LO 4, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: (a) Unit Variable Cost at 5,000 units (3,000 units original + 2,000 additional units); $150,000 ÷ 3,000 units = $50.00 or [($150,000 ÷ 3,000 units) x 5,000 units] ÷ 5,000 units = $50.00; and Unit Fixed Cost at 5,000 units = $110,000 ÷ 5,000 units = $22.00; (b) Unit Variable Cost at 5,000 units (3,000 units original + 2,000 additional units); $150,000 ÷ 3,000 units = $50.00 or [($150,000 ÷ 3,000 units) x 5,000 units] ÷ 5,000 units = $50.00; and Unit Fixed Cost at 5,000 units = ($110,000 + $20,000) ÷ 5,000 units = $26.00.

137. Alpine Athletics is trying to determine the amount of direct materials used in production during the current month. Records indicate that the beginning inventory for the direct materials was $67,000 and that, based on a physical count, the ending inventory for the direct materials is $43,000. After contacting the purchasing department, it was noted that three separate purchases of direct materials were made during the month as follows:

Purchase #1…….. $27,000
Purchase #2…….. $41,000
Purchase #3…….. $39,000

a) How much of the direct materials were used in production during the current month?
b) If the beginning inventory for materials was $72,000 and the ending inventory for direct materials was $55,000, what amount of materials was used in production during the month?

Ans: (a) Materials Used = $131,000 (b) Materials Used = $124,000
Solution:
(a) Direct Materials Used = Beginning Direct Materials Inventory + DM Purchases - Ending Direct Materials Inventory; $67,000 + ($27,000 + $41,000 + $39,000) - $43,000 = $131,000.
(b) Direct Materials Used = Beginning Direct Materials Inventory + DM Purchases - Ending Direct Materials Inventory; $72,000 + ($27,000 + $41,000 + $39,000) - $55,000 = $124,000.

LO 5, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: (a) Raw Materials Used = Beginning Direct Materials Inventory + DM Purchases - Ending Direct Materials Inventory; $67,000 + ($27,000 + $41,000 + $39,000) - $43,000 = $131,000. (b) Raw Materials Used = Beginning Direct Materials Inventory + DM Purchases - Ending Direct Materials Inventory; $72,000 + ($27,000 + $41,000 + $39,000) - $55,000 = $124,000.

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

138. Vinyl Sign Suppliers makes signs for businesses. For the previous month, the company had the following information and business transactions:

Beginning Balances: Raw Materials Inventory, $28,300; Work-In-Process Inventory, $14,900; and Finished Goods Inventory, $21,400

Production data for the month: Direct materials, direct labor and manufacturing overhead costs totaling $115,000 were incurred in producing 300 vinyl signs.

Ending Balances: Raw Materials Inventory, $15,200; Work-In-Process Inventory $34,500; and Finished Goods Inventory, $13,700.

What was the cost of the goods manufactured and transferred to the Finished Goods Inventory at the end of last month?

Ans: Cost of the Goods Manufactured = $95,400
Solution: (Work-In Process Inventory-Beginning Balance + Total Manufacturing Costs) – Work-in-Process Inventory-Ending Balance = Cost of Goods Manufactured for the Period; WIP Beg. Bal., $14,900 + Total Mfg. Costs, $115,000 (DM + DL + MOH) – WIP End. Bal., $34,500 = $95,400.

Ans: $95,400, LO 5, Bloom: AP, Difficulty: Hard, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: (Work-In Process Inventory-Beginning Balance + Total Manufacturing Costs) – Work-in-Process Inventory-Ending Balance = Cost of Goods Manufactured for the Period; WIP Beg. Bal., $14,900 + Total Mfg. Costs, $115,000 (DM + DL + MOH) – WIP End. Bal., $34,500 = $95,400.

139. Weston Woodworks has a beginning balance in its Work-in-Process Inventory of $83,000 and an ending balance in its Work-In-Process Inventory of $75,000. If Millville's Cost of Goods Manufactured is $227,000, and it incurred direct costs, which include direct materials, $67,000, and direct labor, $58,000, how much manufacturing overhead was used for production?

Ans: Manufacturing Overhead used for production = $94,000
Solution: (Work-In Process Inventory-Beginning Balance + Total Manufacturing Costs) – Work-in-Process Inventory-Ending Balance = Cost of Goods Manufactured; WIP Beg. Bal., $83,000 + Total Mfg. Costs, (DM, $67,000 + DL, $58,000 + MOH) – WIP End. Bal., $75,000 = $227,000. Solving for MOH = ($83,000 + $67,000 + $58,000 – $75,000) + MOH = $227,000; $133,000 + MOH = $227,000; MOH = $227,000 - $133,000 = $94,000.

LO 5, Bloom: AP, Difficulty: Hard, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: (Work-In Process Inventory-Beginning Balance + Total Manufacturing Costs) – Work-in-Process Inventory-Ending Balance = Cost of Goods Manufactured; WIP Beg. Bal., $83,000 + Total Mfg. Costs, (DM, $67,000 + DL, $58,000 + MOH) – WIP End. Bal., $75,000 = $227,000. Solving for MOH = ($83,000 + $67,000 + $58,000 – $75,000) + MOH = $227,000; $133,000 + MOH = $227,000; MOH = $227,000 - $133,000 = $94,000.

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140. Astro Manufacturing had the following production data for the week ended July 31, 20XX, with zero beginning balances in all of its inventory accounts:

Monday:	Purchased $137,000 of raw materials on account.
Tuesday:	Requisitioned $83,000 of direct materials into production and assigned $39,000 of direct labor to production.
Wednesday:	Added $24,000 of manufacturing overhead to production related to utilities.
Thursday:	Completed production on 60% of the production and transferred the completed units to finished goods inventory.
Friday:	Sold 50% of the goods that were transferred to Finished Goods Inventory for $65,000 cash.

a) Prepare the necessary journal entries to record the production of units for July.
b) Compute the ending balances in the Raw Materials Inventory, Work-In-Process Inventory, and Finished Goods Inventory at the end of July.

Ans: (a)

		Debit	Credit
Monday	Raw Materials Inventory	137,000	
	Accounts Payable		137,000
Tuesday	Work-In-Process Inventory	122,000	
	Raw (Direct) Materials Inventory		83,000
	Wages Payable		39,000
Wednesday	Work-In-Process Inventory	24,000	
	Utilities Payable		24,000
Thursday	Finished Goods Inventory	87,600	
	Work-In-Process Inventory		87,600
	[($83,000 + $39,000 + $24,000) x 60%]		
Friday	Cash	65,000	
	Cost of Goods Sold (COGS)	43,800	
	Sales		65,000
	Finished Goods Inventory		43,800
	($87,600 x 50%)		

(b) Ans: Raw Materials Inventory = $54,000; Work-In-Process Inventory = $58,400; Finished Goods Inventory = $43,800

Solution: (b) RM Inventory = Purchases – Materials Requisitioned = $137,000 - $83,000 = $54,000; WIP Inventory = (DM + DL + MOH) – Goods Completed = ($122,000 + $24,000) – $87,600 = $58,400; FG Inventory = Goods Completed – Goods Sold = $87,600 - $43,800 = $43,800

LO 5, Bloom: AP, Difficulty: Hard, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting & Control: Cost Accounting.

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

Solution: RM Inventory = Purchases – Materials Requisitioned = $137,000 - $83,000 = $54,000; WIP Inventory = (DM + DL + MOH) – Goods Completed = ($122,000 + $24,000) – $87,600 = $58,400; FG Inventory = Goods Completed – Goods Sold = $87,600 - $43,800 = $43,800

141. The account balances are show below for Indigo Industries at the end of the current month:

Direct Materials Used	$67,000	Finished Goods Inventory, Beg.	$26,000
WIP, Beginning	25,000	Factory Insurance	4,600
Depreciation - Factory Equipment	1,900	Office supplies	3,200
Advertising expenses	2,200	Direct Labor	52,000
Finished Goods Inventory, End.	31,000	WIP, Ending	45,000
Factory supervisor salary	9,800	Office equipment depreciation	2,600
Sales commissions	6,700	Delivery expenses	1,900
Factory utility costs	3,700	Office rent	4,700

Compute the cost of goods manufactured and cost of goods sold for Indigo Industries at the end of the month.

Ans: Cost of Goods Manufactured = $119,000 Cost of Goods Sold = $114,000
Solution: Cost of Goods Manufactured = WIP, Beginning + (Direct Materials Used + Direct Labor + Manufacturing Overhead) – WIP, Ending = $25,000 + [$67,000 + $52,000 + ($1,900 + $9,800 + $3,700 + $4,600)] - $45,000 = $119,000: Cost of Goods Sold = (Cost of Goods Manufactured + Finished Goods Inventory, Beginning) – Finished Goods Inventory, Ending = $119,000 + $26,000 – $31,000 = $114,000

LO 5, Bloom: AP, Difficulty: Hard, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Cost of Goods Manufactured = WIP, Beginning + (Direct Materials Used + Direct Labor + Manufacturing Overhead) – WIP, Ending = $25,000 + [$67,000 + $52,000 + ($1,900 + $9,800 + $3,700 + $4,600)] - $45,000 = $119,000: Cost of Goods Sold = (Cost of Goods Manufactured + Finished Goods Inventory, Beginning) – Finished Goods Inventory, Ending = $119,000 + $26,000 - $31,000 = $114,000.

142. Dogs-Are-Us, Inc. has the following information available at the end of last year:

Sales	$964,000
Less: Variable Costs	413,000
Contribution Margin	551,000
Less: Fixed Costs	210,000
Operating Income	$341,000

Due to recent events, the company has moved all production from labor-based to automation so that it would not need to shut down the factory. By doing this, the variable costs have decreased by 30%, and the fixed costs have increased by 20%. Based on these changes, with no change in sales for the upcoming year, what is the expected contribution margin and operating income based on these changes? Is the company more profitable by making this change? Why?

Ans: Expected contribution margin = $674,900 and Expected operating income = $422,900. The company is more profitable, since it has a higher operating income based on the changes to automation.

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Solution:

Sales	$964,000
Less: Variable Costs [$413,000 x (1 – 30%)]	289,100
Contribution Margin	674,900
Less: Fixed Costs [$210,000 x (1 + 20%)]	252,000
Operating Income	$422,900

LO 6, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting & Control: Cost Accounting.
Solution: Sales – Variable Costs = Contribution Margin – Fixed Costs = Operating Income; $964,000 – [$413,000 x (1-30%)] = $964,000 - $289,100 = $674,900, Contribution Margin – [$210,000 x (1 + 20%)] = $674,900 - $252,000 = $422,900

143. Aquafresco manufactures bottled water with all-natural flavoring added. Aquafresco reported the information below for the current year using a contribution margin income statement format:

Sales	$443,000
Less: COGS – Variable	103,800
SG&A – Variable	49,200
Contribution Margin	290,000
Less: COGS – Fixed	74,600
SG&A – Fixed	52,400
Operating Income	$163,000

Present Aquafresco's contribution margin income statement in the traditional gross margin income statement format.

Ans and Solution: Traditional Income Statement

Sales	$443,000
Less: Cost of Goods Sold ($103,800 + $74,600)	178,400
Gross Margin	264,600
Less: SG&A ($49,200 + $52,400)	101,600
Operating Income	$163,000

LO 6, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounting.
Solution: Operating Income = Sales Revenue – COGS = Gross Margin – SG&A; $443,000 – ($103,800 + $74,600) = $264,600 – ($49,200 + $52,400) = $163,000

144. Cedar Ridge Orthodontics manufactures custom nontraditional orthodontic apparatuses. The following information was reported at the end of the current year:

Traditional Income Statement

Sales	$597,000
Less: Cost of Goods Sold	224,000
Gross Margin	373,000
Less: SG&A	230,000
Operating Income	$143,000

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If 70% of the Cost of Goods Sold is variable, and 65% of the SG&A expenses are variable, convert Cedar Ridge's traditional-formatted income statement to a contribution margin income statement format.

Ans and Solution: Contribution Margin Income Statement

Sales	$597,000
Less: COGS – Variable (224,000 x 70%)	156,800
SG&A – Variable (230,000 x 65%)	149,500
Contribution Margin	290,700
Less: COGS – Fixed (224,000 x 30%)	67,200
SG&A – Fixed (230,000 x 35%)	80,500
Operating Income	$143,000

LO 6, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounting.
Solution: Operating Income = Sales Revenue – COGS-Variable – SG&A-Variable = Contribution Margin – COGS-Fixed - SG&A-Fixed; $597,000 – ($156,800 + $149,500) = $290,700 – ($67,200 + $80,500) = $143,000

145. Eastern Electronics has the following per unit amounts for the production of electronic components for automobiles:

Unit Selling Price	$52
Unit Variable COGS	$24
Unit Variable SG&A	$12

At its current production and sales of 10,000 units, it incurs $60,000 of fixed costs for cost of goods sold and SG&A costs. Unfortunately, Eastern Electronics has fallen on hard times, and since sales have been declining, production has also been deceased significantly for the current year. If Eastern Electronics is only able to produce and sell 6,000 units, is it still profitable? Compute the operating income for Eastern Electronics.

Ans: Yes, Eastern Electronics is still profitable with an operating income of $36,000.
Solution:

Total Sales (6,000 units x $52)	$312,000
COGS – Variable (6,000 units x $24)	144,000
SG&A – Variable (6,000 units x $12)	72,000
Contribution Margin	96,000
Total Fixed Costs (COGS and SG&A)	60,000
Operating Income	$36,000

LO 6, Bloom: K, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Reporting & Control: Cost Accounting.
Solution: Operating Income = Sales Revenue – (COGS-Variable – SG&A-Variable) = Contribution Margin – Total Fixed Costs (COGS and SG&A) = Operating Income; $312,000 – ($144,000 + $72,000) = $96,000 - $60,000 = $36,000.

146. Jambany Juice, Inc. has the following information for the current fiscal year:

Total Sales	$1,240,000
COGS – Variable	463,000
COGS – Fixed	149,000
SG&A – Variable	87,000
SG&A - Fixed	61,000

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What are the gross margin and contribution margin for Jambany Juice, Inc.

Ans: Gross Margin = $628,000 and Contribution Margin = $690,000
Solution: Gross Margin = Total Sales – COGS-Variable – COGS- Fixed; $628,000 = 1,240,000 - $463,000 - $149,000: Contribution Margin = Total Sales - COGS – Variable - SG&A – Variable; $690,000 = 1,240,000 - $463,000 - $87,000

LO 6, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting & Control: Cost Accounting.
Solution: Gross Margin = Total Sales – COGS-Variable – COGS-Fixed = $628,000 = $1,240,000 - $463,000 - $149,000; Contribution Margin = Total Sales – COGS-Variable – SG&A-Variable = $690,000 = $1,240,000 - $463,000 - $87,000

PROBLEMS

147. TMZ Transportation purchased a truck 5 years ago at a cost of $98,000. The truck has been depreciated on an annual basis using straight-line depreciation. The truck had new tires installed 2 years ago at a total cost of $1,200 and had an engine overhaul last year, which cost $5,000. It is expected that the truck will need additional repairs of $3,000 in the current year. Because of these repair and upgrade costs, the company is now considering a purchase of a new truck to replace the old one. The old truck has a trade-in/sale value of $13,000. The cost of the new truck is $102,000. What amount of these costs represent sunk costs?

Ans: Total sunk costs = $104,200
Solution: Total sunk costs, $104,200 = Old truck cost, $98,000 + Tire-replacement costs, $1,200 + engine overhaul cost, $5,000

LO 1, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Total sunk costs, $104,200 = Old truck cost, $98,000 + Tire-replacement costs, $1,200 + engine overhaul cost, $5,000

148. You have been presented with the following 3-year comparative financial information for The Coca Cola Company:

	2022	2021	2020
Revenues	$33,014	$37,266	$34,300
Cost of Goods and Services Sold	13,433	14,619	13,067
Gross Profit	19,581	22,647	21,233
Selling, General and Administrative Expenses	9,731	12,103	11,002
Other Costs and Expenses - Operating	853	458	1079
Operating Income	8,997	10,086	9,152

You have been asked to prepare a vertical analysis for the income statement for the 3-years of comparative data.

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

Ans and Solution:

	2022	%	2021	%	2020	%
Revenues	$33,014	100.0	$37,266	100.0	$34,300	100.0
COGS	13,433	40.7	14,619	39.2	13,067	38.1
Gross Profit	19,581	59.3	22,647	60.8	21,233	61.9
SG&A Expenses	9,731	29.5	12,103	32.5	11,002	32.1
Other Exp. - Operating	853	2.6	458	1.2	1079	3.1
Operating Income	8,997	27.2	10,086	27.1	9,152	26.7

LO 1, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, IMA: Reporting & Control: Financial Statement Analysis
Solution: Line item amounts by year ÷ Revenues by year = Line Item %

149. Benz Corporation has the following cost and expenditure data available for its first month of operations. Complete the table with by indicating whether the cost incurred would be an expense or an asset. Then, compute the total expenditures related to these costs.

Cost Item	Amount	Expense	Asset	Expenditures
Monthly rent (paid in full)	$1,200			
Advertising (not yet paid)	400			
Monthly insurance (paid in full)	300			
Equipment purchased (50% paid in cash; balance on credit)	7,000			
Salaries and Wages (paid in full)	5,200			
Inventory purchased (60 % paid in cash; balance on credit)	2,500			
Prepaid expenses (paid in full)	8,000			
Total	$24,600			

Ans: Total Expenses = $7,100; Total Assets = $17,500; and Total Expenditures = $19,700
Solution:

Cost Item	Amount	Expense	Asset	Expenditures
Monthly rent (paid in full)	$1,200	$1,200		$1,200
Advertising (not yet paid)	400	400		
Monthly insurance (paid in full)	300	300		300
Equipment purchased (50% paid in cash; balance on credit)	7,000		$7,000	3,500
Salaries and Wages (paid in full)	5,200	5,200		5,200
Inventory purchased (60% paid in cash; balance on credit)	2,500		2,500	1,500
Prepaid expenses (paid in full)	8,000		8,000	8,000
Total	$24,600	$7,100	$17,500	$19,700

LO 1, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, IMA: Strategy, Planning & Performance: Strategic Cost Management
Solution: Total Expenses = Monthly rent + Advertising + Monthly insurance + Salaries and Wages = $1,200 + $400 + $300 + $5,200 = $7,100; Total Assets = Equipment purchased + Inventory + Prepaid Expenses = $7,000 + $2,500 + $8,000 = $17,500: Total Expenditures = Monthly rent + Monthly insurance + 50% of Equipment Purchased + Salaries and Wages + 60% of Inventory Purchased + Prepaid Expenses = $1,200 + $300 + (50% x $7,000) + $5,200 + (60% x $2,500) + $8,000 = $19,700

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

150. Lincoln Log Construction produces prefabricated log homes. It has the following comparative financial information available for the past three years. Compute the net income for 2022, 2021, and 2020, and indicate whether the company's profitability has improved or worsened over the 3-year period. Explain what is causing the performance change.

(in thousands)	2022	2021	2020
Revenues	$95,300	$97,200	$104,700
Cost of Goods Sold	25,400	24,600	23,100
Salaries and benefits	29,800	22,400	21,300
Construction Equipment	29,300	27,100	21,500
Depreciation	3,800	4,500	3,700
Marketing and Selling	8,900	10,600	9,200
Prepaid Expenses (Insurance and Rent)	12,200	10,900	11,600
Rental costs	14,600	15,300	13,400

Ans: 2022 Net Income, $12,800; 2021 Net Income, $19,800; 2020 Net Income, $34,000. The company's net income has decreased each year due to a combination of declining revenues and increasing expenses over the 3-year period.

Solution:

(in thousands)	2022	2021	2020
Revenues	$95,300	$97,200	$104,700
Cost of Goods Sold	25,400	24,600	23,100
Gross Margin (Profit)	69,900	72,600	81,600
Salaries and benefits	29,800	22,400	21,300
Depreciation	3,800	4,500	3,700
Marketing and Selling	8,900	10,600	9,200
Rental costs	14,600	15,300	13,400
Net Income	12,800	19,800	34,000

LO 2, Bloom: AP, Difficulty: Hard, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting & Control: Cost Accounting.

151. Fabulous Furs, Inc. reports the following information at the end of the current year:

Sales Revenue	$763,000
Selling Expenses	165,000
General and Administrative Expenses	138,000
Gross Margin	425,000
Prepaid Expenses	33,000
Merchandise Inventory	149,000
Cash	72,000
Accounts Receivable	213,000

What is Fabulous Furs' cost of goods sold, net income, and total current assets at year-end?

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

Ans: Cost of Goods Sold, $338,000; Net Income, $122,000; Current Assets, $467,000
Solution: Cost of Goods Sold = Sales Revenue – Gross Margin = $763,000 - $425,000 = $338,000; Net Income = Gross Margin – Selling Expenses – General and Administrative Expenses = $122,000 = $425,000 - $165,000 - $138,000; Current Assets = Cash + Accounts Receivable + Merchandise Inventory Prepaid Expenses = $467,000 = $72,000 + $213,000 + $149,000 + $33,000

LO 2, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting & Control: Cost Accounting.
Solution: Cost of Goods Sold = Sales Revenue - Gross Margin = $763,000 - $425,000 = $338,000; Net Income = Gross Margin - Selling Expenses - General and Administrative Expenses = $425,000 - $165,000 - $138,000 = $122,000; Current Assets = Cash + Accounts Receivable + Merchandise Inventory + Prepaid Assets = $72,000 + $213,000 + 149,000 + 33,000 = $467,000

152. At year-end, Produce Palace had Sales Revenue of $765,000. Its Cost of Goods Sold was 40% of Sales Revenue. Operating expenses for the year included $135,000 of Selling Expenses, $102,000 of General and Administrative Expenses. Merchandise Inventory was $53,000, and Prepaid Expenses were $23,000.
    a) What is the gross margin and operating income for this Produce Palace, Inc. at year-end using a traditional income statement approach?
    b) If the Sales Revenue is estimated to increase by 10% for the upcoming year due to consumers wanting to eat a healthier diet, what would the gross margin and net income be, assuming that the Cost of Goods percentage remains the same at 40% of sales revenue, using a traditional income statement approach?

Ans: (a) Gross Margin, $459,000; Operating Income, $222,000
(b) Gross Margin, $504,900; Operating Income, $267,900
Solution: (a) Gross Margin = Sales Revenue – Cost of Goods Sold = $765,000 – ($765,000 x 40%) = $459,000 or $765,000 x (100% - 40%) = $459,000. Operating Income = Gross Margin – Selling Expenses – General and Administrative Expenses = $222,000 = $459,000 - $135,000 - $102,000
(b) Gross Margin = Sales Revenue – Cost of Goods Sold = $765,000 (1 + 10%) – ($765,000 (1 + 10%) x 40%) = $841,500 – $336,600 = $504,900 or $765,000 (1 + 10%) x (100% - 40%) = $504,900. Operating Income = Gross Margin – Selling Expenses – General and Administrative Expenses = $267,900 = $504,900 - $135,000 - $102,000

LO 2, Bloom: AP, Difficulty: Hard, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting & Control: Cost Accounting.
Solution: (a) Gross Margin = Sales Revenue – Cost of Goods Sold = $765,000 – ($765,000 x 40%) = $459,000 or $765,000 x (100% - 40%) = $459,000. Operating Income = Gross Margin – Selling Expenses – General and Administrative Expenses = $222,000 = $459,000 - $135,000 - $102,000; (b) Gross Margin = Sales Revenue – Cost of Goods Sold = $765,000 (1 + 10%) – ($765,000 (1 + 10%) x 40%) = $841,500 – $336,600 = $504,900 or $765,000 (1 + 10%) x (100% - 40%) = $504,900. Operating Income = Gross Margin – Selling Expenses – General and Administrative Expenses = $267,900 = $504,900 - $135,000 - $102,000

153. Nokitar Company specializes in manufacturing smart phones. The company has enough orders to keep factory production at 1,000 smart phones per month. Nokitar's monthly manufacturing costs and other expense data are shown in the table below. Complete the table, classifying each item as either direct materials (DM), direct labor (DL), manufacturing overhead (MOH), or period cost. Then compute the total manufacturing cost and the per unit manufacturing cost.

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

Cost Item	Cost	DM	DL	MOH	Period
Factory maintenance	$1,500				
Factory manager salary	4,000				
Advertising	9,000				
Factory equipment rent	2,300				
Office equipment rent	4,500				
Sales commissions	6,000				
Factory building insurance	2,000				
Factory equipment rent	8,000				
Electrical components - phones	35,000				
Wages-assembly-line workers	15,000				
Office supplies	900				
Factory building depreciation	4,900				
Casings - phones	11,000				
Total					

Ans: Direct Materials = $46,000: Direct Labor = $15,000: Manufacturing Overhead = $22,700;
Period Costs = $20,400; Total Manufacturing Costs = $83,700; Unit Manufacturing Cost = $83.70.
Solution:

Cost Item	Cost	DM	DL	MOH	Period
Factory maintenance	$ 1,500			$1,500	
Factory manager salary	4,000			4,000	
Advertising	9,000				$9,000
Factory equipment rent	2,300			2,300	
Office equipment rent	4,500				4,500
Sales commissions	6,000				6,000
Factory building insurance	2,000			2,000	
Factory equipment rent	8,000			8,000	
Electrical components -phones	35,000	$35,000			
Wages-assembly-line workers	15,000		$15,000		
Office supplies	900				900
Factory building depreciation	4,900			4,900	
Casings - phones	11,000	11,000			
Total	$104,100	$46,000	$15,000	$22,700	$20,400

Total Manufacturing Costs = DL + DM + MOH = $46,000 + $15,000 + $22,700 = $83,700; Unit Manufacturing Cost = $83,700 ÷ 1,000 phones = $83.70

LO 3, Bloom: AP, Difficulty: Hard, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Total Manufacturing Costs = DL + DM + MOH = $46,000 + $15,000 + $22,700 = $83,700; Per Unit Manufacturing Cost = $83,700 ÷ 1,000 phones = $83.70

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

154. Jingle Jewelry makes customized holiday jewelry. It has the following cost data for the current month.

Direct labor	$52,000	Sales commissions	$9,000
Factory property taxes	4,100	Advertising	1,400
Office supplies	2,300	Factory manager's salary	7,000
Factory equipment rent	5,000	Direct materials used	89,200
Delivery trucks depreciation	1,800	Factory utilities	2,600
Factory depreciation	8,300	Office equipment rent	3,300

From this information, determine the total amount of (a) Manufacturing overhead, (b) Product costs and (c) Period costs.

Ans: (a) Manufacturing overhead = $27,000; (b) Product costs = $168,200; (c) Period Costs = $17,800

Solution:

(a) Manufacturing Overhead		(b) Product Costs		(c) Period Costs	
Factory property taxes	$4,100	Direct materials used	$89,200	Office supplies	$2,300
Factory equipment rent	5,000	Direct labor	52,000	Delivery trucks depreciation	1,800
Factory depreciation	8,300	Total MOH	27,000	Sales commissions	9,000
Factory manager's salary	7,000			Advertising	1,400
Factory utilities	2,600			Office equipment rent	3,300
Total MOH	$27,000	Total Product Costs	$168,200	Total Period Costs	$17,800

LO 3, Bloom: AP, Difficulty: Hard, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: (a) Manufacturing Overhead, $27,000 = Factory property taxes, $4,100 + Factory equipment rent, $5,000 + Factory depreciation, $8,300 + Factory manager's salary, $7,000 + Factory utilities, $2,600; (b) Product Costs, $168,200 = Direct materials used, $89,200 + Direct labor, $52,00 + Manufacturing Overhead, $27,000; (c) Period Costs, $17,800 = Office supplies, $2,300 + Delivery trucks depreciation, $1,800 + Sales commissions, $9,000 + Advertising, $1,400 + Office equipment rent, $3,300

155. Sierra Ski, Inc. reported the following costs and expenses for the month of January:

Office Equipment Depreciation	$4,700	Direct Labor	$24,600
Direct Materials Used	31,250	Manufacturing Overhead	32,790
Sales Salaries	25,940	Advertising	13,420

What are the amounts for "Prime Costs" and "Conversion Costs" for Sierra Ski, Inc. for January?

Ans: Prime Costs = $55,850 and Conversion Costs = $57,390
Solution: Total Prime Costs = Direct Materials Used + Direct Labor = $31,250 + $24,600 = $55,850; Total Conversion Costs = Direct Labor + Manufacturing Overhead = $24,600 + $32,790 = $57,390

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

LO 3, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Total Prime Costs = Direct Materials Used + Direct Labor = $31,250 + $24,600 = $55,850; Total Conversion Costs = Direct Labor + Manufacturing Overhead = $24,600 + $32,790 = $57,390

156. Tiny Tots Trikes (TTT), Inc. makes tricycles for toddlers. Sales and cost data is available for the current year below:

Tricycles	4,000 units	
Sales	$280,000	$70 per unit
Variable Costs	160,000	$40 per unit
Fixed Costs	40,000	$10 per unit

Answer the following questions regarding Tiny Tots Trikes assuming that each scenario is independent.

a) If Tiny Tots Trikes were able to increase production and sales by 2,000 units without adding extra fixed costs, what would the unit variable cost and unit fixed cost be?
b) If Tiny Tots Trikes were able to increase production and sales by 3,000 units without adding extra fixed costs, what would the operating income be and by how much would it differ from the current year's amount? What would the new unit variable cost and unit fixed cost be under this scenario?
c) If Tiny Tots Trikes is able to increase production and sales by 3,000 units but have to add additional capacity to meet demand by incurring extra fixed costs of $30,000, what would the operating income be based on these changes? What would the new unit variable cost and unit fixed cost be under this scenario?

Ans: (a) Unit variable cost, $40 and Unit fixed cost, $6.67
(b) Operating income (current), $80,000 and Operating income (new), $170,000, Change in Operating income, $90,000, Unit variable cost, $40 and Unit fixed cost, $5.71
(c) Operating income (new), $140,000, Unit variable cost, $40 and Unit fixed cost, $10.00
Solution:
(a) Unit variable cost = (6,000 units x ($160,000 ÷ 4,000 units)] ÷ 6,000 units = $40 per unit: Unit fixed cost = $40,000 ÷ 6,000 units = $6.67 per unit;
(b) Sales (current) – Variable costs (current) – Fixed costs (current) = Operating income (current) = $280,000 - $160,000 - $40,000 = $80,000 Sales (new) – Variable costs (new) – Fixed costs (current) = Operating income (new) = (7,000 x $70) - (7,000 x $40) - $40,000 = $170,000; Operating income (new) – Operating income (current) = Change in Operating Income = $170,000 - $80,000 = $90,000 increase; Unit variable cost = (7,000 units x ($160,000 ÷ 4,000 units)] ÷ 7,000 units = $40 per unit; Unit fixed cost = $40,000 ÷ 7,000 units = $5.71;
(c) Sales (new) – Variable costs (new) – Fixed costs (new) = Operating income (new) = (7,000 x $70) – (7,000 x $40) - ($40,000 + $30,000) = $140,000 Unit variable cost = (7,000 units x ($160,000 ÷ 4,000 units)] ÷ 7,000 units = $40 per unit; Unit fixed cost = ($40,000 + $30,000) ÷ 7,000 units = $10.00

LO 4, Bloom: AP, Difficulty: Hard, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting & Control: Cost Accounting.
Solution: (a) Unit variable cost = (6,000 units x ($160,000 ÷ 4,000 units)] ÷ 6,000 units = $40 per unit; Unit fixed cost = $40,000 ÷ 6,000 units = $6.67; (b) Sales (current) – Variable costs (current) – Fixed costs (current) = Operating income (current); $280,000 - $160,000 - $40,000 = $80,000; Sales (new) – Variable costs (new) – Fixed costs (current) = Operating income (new) = (7,000 x

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

$70) - (7,000 x $40) - $40,000 = $170,000; Operating income (new) – Operating income (current) = Change in Operating income; $170,000 - $80,000 = $90,000 increase; Unit variable cost = (7,000 units x ($160,000 ÷ 4,000 units)] ÷ 7,000 units = $40 per unit; Unit fixed cost = $40,000 ÷ 7,000 units = $5.71; (c) Sales (new) – Variable costs (new) – Fixed costs (new) = Operating income (new); (7,000 x $70) - (7,000 x $40) - ($40,000 + $30,000) = $140,000; Unit variable cost = (7,000 units x ($160,000 ÷ 4,000 units)] ÷ 7,000 units = $40 per unit; Unit fixed cost = ($40,000 + $30,000) ÷ 7,000 units = $10.00

157. Samsuni makes wireless earbuds. The prior-year, unit selling price for a set of earbuds was $100 with a unit variable cost of $40 and a unit fixed cost of $10 based on production and sales of 5,000 sets. For the current year, Samsuni is planning to increase the unit selling price to $105 since the unit variable cost increased by 20% and the total fixed cost also increased by 10%. Assume that at the higher selling price, the company feels that unit sales may decrease to 4,500 sets. What operating income will Samsuni expect to recognize for the current year?

Ans: $201,500 Operating Income
Solution: Sales Revenue - Total Costs = Profit; Sales Revenue = New Unit Selling Price x Expected Sales = [$105.00 x 4,500 units = $472,500; Total Costs = Total Variable Costs + Total Fixed Costs = [{Unit Variable Cost x (1 + 20%)} x Expected Units, 4,500 units] + (Unit Fixed Cost x original units, 5,000) x (1 + 10%)] = ($40.00 x 1.2 x 4,500) + ($10.00 x 5,000 units x 1.1) = $216,000 + 55,000 = $271,000; Sales Revenue, $472,500 – Total Costs, $271,000 = $201,500 Operating Income

LO 4, Bloom: AP, Difficulty: Hard, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting & Control: Cost Accounting.
Solution: Sales Revenue - Total Costs = Profit; Sales Revenue = New Selling Price per Unit x Expected Sales = [$105.00 x 4,500 units = $472,500; Total Costs = Total Variable Costs + Total Fixed Costs = [{Variable cost per unit x (1 + 20%)} x Expected Units, 4,500 units] + (Fixed Cost per Unit x original units, 5,000) x (1 + 10%)] = ($40.00 x 1.2 x 4,500) + ($20.00 x 5,000 units x 1.1) = $216,000 + 55,000 =$271,000; Sales Revenue, $472,500 – Total Costs, $271,000 = $201,500 Operating income

158. Manseco Manufacturing had sales revenue last year of $500,000, variable manufacturing costs of $320,000, and fixed manufacturing costs of $80,000.
   a) If Manseco expects sales revenue to increase by 20% for the upcoming year, with variable manufacturing costs maintaining the same percentage relationship to sales revenue as in the previous year, with the same fixed manufacturing costs, what will the expected operating income (profit) be for Manseco?
   b) If Manseco instead expects sales revenue to decline by 10% for the upcoming year, with variable manufacturing costs maintaining the same percentage relationship to sales revenue as in the previous year, with the same fixed manufacturing costs, what will the expected operating income (profit) be for Manseco?

Ans: (a) Operating income, $136,000; (b) Operating income, $82,000,
Solution:
   a) Variable costs ÷ Sales = $320,000 ÷ $500,000 = 64%; Expected Sales = $500,000 x (1 + 20%) = $600,000; Expected Sales – ($600,000 x 64%, Expected Variable Costs) – $80,000, Fixed Costs = Expected Operating Income = $600,000 - $384,000 - $80,000 = $136,000
   b) Variable costs ÷ Sales = $320,000 ÷ $500,000 = 64%; Expected Sales = $500,000 x (1 - 10%) = $450,000; Expected Sales – ($450,000 x 64%, Expected Variable Costs) – $80,000, Fixed Costs = Expected Operating Income = $450,000 - $288,000 - $80,000 = $82,000

LO 4, Bloom: AP, Difficulty: Hard, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting & Control: Cost Accounting.

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

Solution: (a) Variable costs ÷ Sales = $320,000 ÷ $500,000 = 64%; Expected Sales = $500,000 x (1 + 20%) = $600,000; Expected Sales – ($600,000 x 64%, Expected Variable Costs) – $80,000, Fixed Costs = Expected Operating Income = $600,000 - $384,000 - $80,000 = $136,000; (b) Variable costs ÷ Sales = $320,000 ÷ $500,000 = 64%; Expected Sales = $500,000 x (1 - 10%) = $450,000; Expected Sales – ($450,000 x 64%, Expected Variable Costs) – $80,000, Fixed Costs = Expected Operating Income = $450,000 - $288,000 - $80,000 = $82,000

159. Presented below is incomplete manufacturing cost data for Cadence Company. Solve for the missing amounts.

	Direct Materials Used	Direct Labor	Manufacturing Overhead	Total Manufacturing Costs	Work-In-Process Inventory (beginning)	Work-In-Process Inventory (ending)	Cost of Goods Manufactured
1.	$23,000	$65,000	$14,000	(a)	$37,000	$45,000	(b)
2.	(c)	$44,000	$25,000	$157,000	$69,000	(d)	$153,000
3.	$52,000	$38,000	(e)	$107,000	(f)	$58,000	$114,000

Ans: (a) $102,000 (b) $94,000 (c) $88,000 (d) $73,000 (e) $17,000 (f) $65,000

Solution:

(a) Total Manufacturing Costs = Direct Materials Used + Direct Labor + Manufacturing Overhead = $23,000 + $65,000 + $14,000 = $102,000

(b) Cost of Goods Manufactured = Work-In-Process Inventory (beginning) + Total Manufacturing Costs – Work-In-Process Inventory (ending) = $37,000 + $102,000 [from (a)] - $45,000 = $94,000

(c) Direct Materials Used = Total Manufacturing Costs – Direct Labor – Manufacturing Overhead = $157,000 - $44,000 - $25,000 = $88,000

(d) Work-In-Process (ending) = Total Manufacturing Costs + Work-In-Process (beginning) – Cost of Goods Manufactured = $157,000 + $69,000 - $153,000 = $73,000

(e) Manufacturing Costs = Total Manufacturing Costs – Direct Materials Used - Direct Labor = $107,000 - $52,000 - $38,000 = $17,000

(f) Work-In-Process (beginning) = Cost of Goods Manufactured + Work-In-Process (ending) – Total Manufacturing Costs = $114,000 + $58,000 - $107,000 = $65,000

LO 5, Bloom: AP, Difficulty: Hard, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: (a) Total Manufacturing Costs = Direct Materials Used + Direct Labor + Manufacturing Overhead = $23,000 + $65,000 + $14,000 = $102,000; (b) Cost of Goods Manufactured = Work-In-Process Inventory (beginning) + Total Manufacturing Costs – Work-In-Process Inventory (ending) = $37,000 + $102,000 [from (a)] - $45,000 = $94,000; (c) Direct Materials Used = Total Manufacturing Costs – Direct Labor – Manufacturing Overhead = $157,000 - $44,000 - $25,000 = $88,000; (d) Work-In-Process (ending) = Total Manufacturing Costs + Work-In-Process (beginning) – Cost of Goods Manufactured = $157,000 + $69,000 - $153,000 = $73,000; (e) Manufacturing Costs = Total Manufacturing Costs – Direct Materials Used - Direct Labor = $107,000 - $52,000 - $38,000 = $17,000; (f) Work-In-Process (beginning) = Cost of Goods Manufactured + Work-In-Process (ending) – Total Manufacturing Costs = $114,000 + $58,000 - $107,000 = $65,000

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

160. DeLino Distribution has the following cost data provided in the table below for the month of March:

Materials used in production	$78,000	Delivery costs	$14,000
Factory depreciation	15,200	Factory insurance	7,800
Store salaries	12,800	Factory supplies	2,300
Production workers' wages	44,700	Store supplies	2,800
Advertising	6,100	Factory equipment rent	9,500

Additional information related to the company's Inventory is provided below:

	Beginning	Ending
Raw Materials Inventory	$20,000	$45,000
Work-In-Process Inventory	65,000	150,000
Finished Goods Inventory	43,000	38,000

Compute the Cost of Goods Manufactured and Cost of Goods Sold for Delino Distribution for the month of March.

Ans: Cost of Goods Manufactured = $72,500; Cost of Goods Sold = $77,500
Solution: Cost of Goods Manufactured = Work-In-Process Inventory (Beginning) + Total Manufacturing Costs – Work-In-Process Inventory (Ending) = $65,000 + (DM, $78,000 + DL, $44,700 + MOH, ($15,200 + $7,800 + 2,300 + $9,500) - $150,000 = $72,500; Cost of Goods Sold = Finished Goods Inventory (Beginning) + Cost of Goods Manufactured – Finished Goods Inventory (Ending) = $43,000 + $72,500 - $38,000 = $77,500

LO 5, Bloom: AP, Difficulty: Hard, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: Cost of Goods Manufactured = Work-In-Process Inventory (Beginning) + Total Manufacturing Costs – Work-In-Process Inventory (Ending) = $65,000 + (DM, $78,000 + DL, $44,700 + MOH, ($15,200 + $7,800 + 2,300 + $9,500) - $150,000 = $72,500; Cost of Goods Sold = Finished Goods Inventory (Beginning) + Cost of Goods Manufactured – Finished Goods Inventory (Ending) = $43,000 + $72,500 - $38,000 = $77,500

161. Wonder Wares has the following transactions related to its production for the month of May:

May 5 Purchased direct materials of $28,000, which were delivered the same day.
10 $19,000 of direct materials was requisitioned into production.
15 Incurred $54,000 of direct labor related to production workers.
23 Incurred $9,000 of manufacturing overhead in production.
30 70% of production was completed in the month.
31 60% of the completed goods were sold.

There were zero beginning balances in all of the Inventory accounts at May 1. Determine the balances in Raw Materials Inventory, Work-In-Process Inventory, Finished Goods Inventory and Cost of Goods Sold at the end of May. (Hint: Use T-accounts)

Ans: Raw Materials Inventory balance = $9,000; Work-In-Process Inventory balance = $24,600; Finished Goods Inventory = $22,960; Cost of Goods Sold = $34,440

Cost Accounting With Integrated Data Analytics 1st edition Farmer Test Bank

Solution:

RM Inventory			WIP Inventory			FG Inventory			Cost of Goods Sold	
Beg. $0			Beg. $0			Beg. $0			Beg. $0	
5/5 28,000			5/10 19,000							
	5/10 19,000		5/15 54,000							
			5/23 9,000							
				5/30 57,400		5/30 57,400				
							5/31 34,440		5/31 34,440	
Bal. 9,000			Bal. 24,600			Bal. 22,960			Bal. 34,440	

Ans: Raw Materials Inventory balance = $9,000; Work-In-Process Inventory balance = $24,600; Finished Goods Inventory = $22,960; Cost of Goods Sold = $34,440, LO 5, Bloom: AP, Difficulty: Hard, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.
Solution: RM Inventory, $9,000 = ($0 + $28,000 - $19,000); WIP Inventory, $24,600 = ($0 + $19,000 + $54,000 + $9,000 = $82,000 x 70*= $57,400*; $82,000 - $57,400) (; FG Inventory, $22,960 = ($57,400* - $34,440**); COGS, $34,440** = ($57,400 x 60%)

162. Shawna's Smoothies has the following cost information for the current month:

Total Sales (units)	2,000
Unit Selling Price	$6.50
Unit Variable COGS	$2.30
COGS – Fixed	$400
Unit Variable SG&A	$1.20
SG&A - Fixed	$ 600

Shawna would like to know how profitable the business was for the current month. She is not sure which income statement format is best for her to given her insight into what is contributing to the profitability of the business. She has asked for a traditional income statement and a contribution margin income statement to be prepared (headings not required).

a) Is the operating income different based on the type of income statement prepared?
b) Which type of income statement is normally used for internal reporting purposes? Which type of income statement is normally used for external reporting purposes?

Ans and Solution:

Traditional Income Statement			Contribution Margin Income Statement	
Sales (2,000 x $6.50)	$13,000		Sales (2,000 x $6.50)	$13,000
Less: COGS – Variable (2,000 x $2.30)	4,600		Less: COGS – Variable (2,000 x $2.30)	4,600
COGS – Fixed	400		SG&A – Variable (2,000 x $1.20)	2,400
Gross Margin	8,000		Contribution Margin	6,000
Less: SG&A – Variable (2,000 x $1.20)	2,400		Less: COGS – Fixed	400
SG&A - Fixed	600		SG&A - Fixed	600
Operating Income	$5,000		Operating Income	$5,000

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a) The operating income is not different; it is exactly the same in both statement formats.
b) The contribution margin income statement is used for internal reporting purposes, whereas, the traditional income statement is used for external reporting purposes.

Ans: LO 6, Bloom: AP, Difficulty: Hard, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting & Control: Cost Accounting.
Solution: Traditional Inc. Stmnt: Sales, $13,000 – COGS-Variable, $4,600 – COGS-Fixed, $400 = Gross Margin, $8,000 – SG&A-Variable, $2,400 – SG&A-Fixed, $600 = Operating Income, $5,000; Contribution Margin, Inc. Stmnt.: Sales, $13,000 – COGS-Variable, $4,600 - SG&A-Variable, $2,400 = Contribution Margin, $6,000 - COGS-Fixed, $400 - SG&A-Fixed, $600 = Operating Income, $5,000.

163. Estrella Corporation has a unit selling price of $400, unit variable cost of $250, and total fixed costs of $200,000. The company is currently operating at full capacity, producing and selling 5,000 units annually. The company is considering the following alternatives, both of which will allow the company to continue to produce and sell at full capacity.

Alternative 1: Decrease the unit selling price by 5% while embarking on a cost reduction plan to also decrease unit variable costs by 10% and the fixed costs by $25,000.

Alternative 2: Decrease the unit selling price by 3% while decreasing the unit variable cost by 12%, but incurring an increase in the fixed costs of 3%.

Determine the profitability of each alternative using the contribution margin income statement format and identify the alternative that is most profitable to management.

Ans and Solution:

Original Data			**Alternative #1**			**Alternative #2**	
Sales (5,000 x $400)	$2,000,000		Sales (5,000 x 380)		1,900,000	Sales (5,000 x 388)	$1,940,000
Less: Variable Costs (5,000 x $250)	1,250,000		Less: Variable Costs (5,000 x $225)		1,125,000	Less: Variable Costs (5,000 x $220)	1,100,000
Contribution Margin	750,000		Contribution Margin		775,000	Contribution Margin	840,000
Less: Fixed Costs	200,000		Less: Fixed Costs		175,000	Less: Fixed Costs	206,000
Operating Income	$550,000		Operating Income		600,000	Operating Income	634,000

Alternative #1 should be selected since it produces the higher net income of $650,000 as compared to Alternative #2, which only produces net income of $634,000. Both alternatives, though, will improve the profitability of the company.

LO 6, Bloom: AP, Difficulty: Hard, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting & Control: Cost Accounting.
Solution: Original IS: Sales (5,000 x $400), $2,000,000 – Variable Costs (5,000 x $250), $1,250,000 – Fixed Costs, $200,000 = Operating Income, $550,000; Alternative #1 Inc. Stmnt: Sales (5,000 x $380), $1,900,000 – Variable Costs (5,000 x $225), $1,125,000 – Fixed Costs ($200,000 - $25,000), $175,000 = Operating Income, $650,000; Alternative #2 Inc. Stmnt: Sales (5,000 x $388), $1,940,000 – Variable Costs (5,000 x $220), $1,100,000 – Fixed Costs ($200,000 + {$200,000 x 3%}), $206,000 = Operating Income, $634,000

164. Marco Manufacturers has a current unit selling price of $120 with a unit variable cost of $70 and total fixed costs of $60,000. At its current production level of 1,000 units, it is experiencing a net loss of $10,000. The company is trying to plan a strategy for the upcoming year that will result in a profit. It is considering the following options while maintaining the same current production of 1,000 units:

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Option #1: Outsource some of its parts' production. The external unit price (unit cost) will only result in cost-savings of $20 in unit variable cost but $5,000 in fixed costs can be saved ($55,000 of fixed costs will still be incurred)

Option #2: Move to automating most of the production, which will result in a significant cut the unit variable cost, reducing it to $40 per unit, but increasing the total fixed costs to $68,000.

Using a contribution margin income statement format, determine which option appears to be the best for Marco Manufacturers. (Highest net income)
Ans and Solution:

Option #1			**Option #2**	
Sales (1,000 x $120)	$120,000		Sales (1,000 x $120)	$120,000
Less: Variable Costs (1,000 x $50)	50,000		Less: Variable Costs (1,000 x $40)	40,000
Contribution Margin	70,000		Contribution Margin	80,000
Less: Fixed Costs	55,000		Less: Fixed Costs	68,000
Operating Income	$15,000		Operating Income	$12,000

Both options are going to bring the company into a profitable position, and both are going to result in the labor force being reduced. As such, the most profitable option should therefore, be pursued which would be Option #1, producing $15,000.

LO 6, Bloom: AP, Difficulty: Hard, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management, Reporting & Control: Cost Accounting.
Solution: Sales (1,000 x $125), $120,000 – Variable Costs (1,000 x $120), $120,000 – Fixed Costs ($60,000 - $5,000), $55,000 = Operating Income, $15,000; Option #2 IS: Sales (1,000 x $388), $1,940,000 – Variable Costs (1,000 x $40), $40,000 – Fixed Costs, $68,000 = Operating Income, $12,000

SHORT ANSWER

165. Companies use financial statements and cost information for budgeting, planning, and control purposes. Explain what vertical analysis is and how it is used to interpret the performance of a business.

Ans: Vertical analysis is a method used for comparison of financial data reported within the financial statements, such as the balance sheet or the income statement. It relates items on these financial statements as a percentage of a base amount. The base used for the balance sheet is total assets and the base used for the income statement is total revenue. For example, on the balance sheet if Inventory is $2,000 and total assets are $8,000, then the vertical analysis would show the total assets as 100% and the Inventory as 25% ($2,000 ÷ $8,000). Similarly, for the vertical analysis of the income statement, if Cost of Goods Sold is $60,000 and Sales Revenue is $100,000, then the Cost of Goods Sold would be expressed as 60% ($60,000 ÷ $100,000) and the Sales Revenue would be expressed as 100%.

LO: 1, Bloom: K, Difficulty: Medium, AACSB: Communication, AICPA: FC, Measurement, Analysis, and Interpretation, AICPA PC: Communication, IMA: Strategy, Planning & Performance: Strategic Cost Management.

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166. Costs are **not** always easily measured or reported on the financial statements. Identify two types of costs that fit this description, define them, and explain the importance of these costs for decision-making purposes.

Ans: The two types of costs that are not easily measured and are not reported on the financial statements but are important for decision-making purposes are opportunity costs and sunk costs. Opportunity costs are combined benefits less costs of the available options that were not chosen and sunk costs are costs that have already been incurred and thus, will not affect the current decision being made.
Although both sunk costs and opportunity costs may be included in the costs provided for decision-making purposes, it is important to remember to ignore the sunk costs, but include the opportunity costs for decision-making purposes in selecting alternatives.

LO: 1, Bloom: K, Difficulty: Medium, AACSB: Communication, AICPA: FC, Measurement, Analysis, and Interpretation, AICPA PC: Communication, IMA: Strategy, Planning & Performance: Strategic Cost Management.

167. Define the terms expenses, costs, and expenditures and explain their differences.

Ans: Costs are a measure of a resource being sacrificed. They include both assets and expenses. A cost reported as an asset continues to have future benefit; expenses have no future benefit. Expenses on the other hand, represents a resource already sacrificed to bring benefit in the current period. If a cost is considered an expense, the amount will be reported on the income statement and if a cost is classified as an asset, it will be reported on the balance sheet. Expenditures are cash outflows and can include expenses and costs. For example, monthly rent paid in cash is an expenditure, cost, and expense, and the purchase of equipment with cash is an expenditure and a cost, but not an expense.

LO: 1, Bloom: K, Difficulty: Medium, AACSB: Communication, AICPA: FC, Measurement, Analysis, and Interpretation, AICPA PC: Communication, IMA: Strategy, Planning & Performance: Strategic Cost Management.

168. Explain how the financial statements for a service provider, merchandiser and manufacturer differ.

Ans: For a service provider, the financial statements will typically not include Inventory or Cost of Goods Sold (unless goods are sold to complement services provided). Merchandisers and manufacturers will include Inventory and Cost of Goods Sold on their financial statements, but merchandisers will only show one Inventory account-type, Merchandise Inventory and manufacturers will show three different Inventory accounts: Raw Materials Inventory, Work-In-Process Inventory and Finished Goods Inventory. Since the merchandisers and manufacturers report Cost of Goods Sold, the income statement for a merchandiser and manufacturer will also show gross margin, Sales Revenue minus Cost of Goods Sold, which a service provider will **not** usually report.

LO: 2, Bloom: K, Difficulty: Medium, AACSB: Communication, AICPA: FC, Measurement, Analysis, and Interpretation, AICPA PC: Communication, IMA: Strategy, Planning & Performance: Strategic Cost Management.

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169. What are the three different types of Inventory for a manufacturer, and explain what each of them includes?

Ans: The three different types of Inventory for a manufacturer are Raw Materials Inventory, Work-In-Process Inventory and Finished Goods Inventory.

The Raw Materials Inventory represents materials purchased (both direct and indirect) but not yet used in production. Work-In-Process Inventory reflects goods started into production, but not yet completed; simply stated they are partially-completed goods (consisting of direct materials, direct labor, and manufacturing overhead.) Finished Goods Inventory includes finished products (goods) that are in a form ready for sale.

LO: 2, Bloom: K, Difficulty: Medium, AACSB: Communication, AICPA: FC, Measurement, Analysis, and Interpretation, AICPA PC: Communication, IMA: Strategy, Planning & Performance: Strategic Cost Management.

170. Explain the similarities and differences between the income statements for a service provider and a manufacturer.

Ans: The similarities in the income statement presentation for a service provider and a manufacturer are that both report revenues and expenses, but the detail for the manufacturer is more significant. The service provider reports revenue as Service Revenue or Fees whereas, the manufacturer reports revenue as Sales or Net Sales. Both entities will report operating expenses, but the manufacturer will include an additional expense for the Cost of Goods Sold, which when deducted from the Sales (Net Sales), will show the Gross Margin for the manufacturer. The income statement for a service provider shows Direct Costs of Services as a deduction from Service Revenue to determine Gross Margin.

LO: 2, Bloom: K, Difficulty: Medium, AACSB: Communication, AICPA: FC, Measurement, Analysis, and Interpretation, AICPA PC: Communication, IMA: Strategy, Planning & Performance: Strategic Cost Management.

171. Differentiate between product costs and period costs.

Ans: Product costs are the same as manufacturing costs and thus, include direct materials, direct labor and manufacturing overhead. Product costs are included in inventory accounts as assets on the balance sheet until sold, at which point they become expenses, reported as the Cost of Goods Sold on the income statement. Period costs are the same as non-manufacturing costs and include selling expenses and general and administrative expenses. Period costs are expensed as incurred and thus, are reported the income statement.

LO: 3, Bloom: K, Difficulty: Medium, AACSB: Communication, AICPA: FC, Measurement, Analysis, and Interpretation, AICPA PC: Communication, IMA: Strategy, Planning & Performance: Strategic Cost Management.

172. Define prime costs and conversion costs as they relate to product costs.

Ans: Both prime costs and conversion costs are classified as manufacturing costs and product costs. Prime costs are the sum of direct materials and direct labor in production. They are labeled as “prime” because they are the primary costs incurred in the production of finished goods. Conversion costs consist of direct labor and manufacturing overhead and emphasize the “what it took” to convert the direct materials into a finished good.

LO: 3, Bloom: K, Difficulty: Medium, AACSB: Communication, AICPA: FC, Measurement, Analysis, and Interpretation, AICPA PC: Communication, IMA: Strategy, Planning & Performance: Strategic Cost Management.

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173. Explain how direct costs and indirect costs relate to product and manufacturing costs.

Ans: Both direct costs and indirect costs are product and manufacturing costs. Direct costs include the costs that are easily traced to the final product, such as direct materials and direct labor (or prime costs). Indirect costs are those product or manufacturing costs that are **not** easily or directly traceable to a final product, and include manufacturing overhead costs such as factory rent, factory supplies, factory insurance, etc.

LO: 3, Bloom: K, Difficulty: Medium, AACSB: Communication, AICPA: FC, Measurement, Analysis, and Interpretation, AICPA PC: Communication, IMA: Strategy, Planning & Performance: Strategic Cost Management.

174. Define a variable cost on a total and a per unit basis and give an example of one.

Ans: A variable cost is one that changes in total directly and proportionately with a given level of change in activity. If the production level increases by 10%, the total variable cost will increase by 10% as well. On a per unit basis, regardless of the change in the level of activity, a unit variable cost will remain constant over the entire relevant range. Examples of variable costs include direct materials and direct labor costs.

LO: 4, Bloom: K, Difficulty: Medium, AACSB: Communication, AICPA: FC, Measurement, Analysis, and Interpretation, AICPA PC: Communication, IMA: Strategy, Planning & Performance: Strategic Cost Management.

175. Explain the cost behavior of a fixed cost in total and per unit when production levels vary and provide an example of one.

Ans: Fixed costs are constant in total within the available production capacity (relevant range). If production activity increases or decreases, the total fixed costs will not change. However, the unit fixed cost has an inverse relationship with a change in the level of activity. For example, if the activity level increases, the unit fixed cost will decrease, and if the activity level decreased, the unit fixed cost will increase. Changing fixed costs to accommodate a change in the capacity-level is often very difficult. Examples of fixed costs include building rent, factory insurance, factory property taxes, and depreciation of factory equipment.

LO: 4, Bloom: K, Difficulty: Medium, AACSB: Communication, AICPA: FC, Measurement, Analysis, and Interpretation, AICPA PC: Communication, IMA: Strategy, Planning & Performance: Strategic Cost Management.

176. Explain how variable costs and fixed costs can be graphed in conjunction with revenues to reflect profit, loss and the breakeven point.

Ans: The graph would be constructed with the vertical axis representing the dollars and the horizontal axis reflecting the units produced/sold. A horizontal line representing the fixed costs would be drawn at the dollar amount located on the vertical axis, extending across all levels of activity (relevant range). From the intersection of the vertical axis and the fixed cost line, the total cost line will be drawn as an upward sloping line reflecting increases in total costs as the level of production increases. The distance between the total cost line and the fixed cost line shows the increment of variable cost incurred as production/sales increase. Lastly, a revenue line is drawn starting at $0 and sloping upward and to the right. The point at which the revenue line and the total cost line intersect represents the breakeven point,

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with any points below the intersection point representing a net loss and any point above the intersection point representing a profit.

LO: 4, Bloom: K, Difficulty: Medium, AACSB: Communication, AICPA: FC, Measurement, Analysis, and Interpretation, AICPA PC: Communication, IMA: Strategy, Planning & Performance: Strategic Cost Management.

177. Describe the flow of costs through the production cycle for a manufacturer.

Ans: When raw materials are purchased, they are recorded in the Raw Materials Inventory account. Once direct materials, are requisitioned for production, the Raw Materials Inventory account is decreased and the Work-In-Process Inventory account is increased as the direct materials move into production. Direct labor and manufacturing overhead are then assigned directly into production with these costs being recorded as increases to the Work-In-Process Inventory. As goods are completed, they are then transferred out of the Work-In-Process Inventory, thereby, decreasing the account, into Finished Goods Inventory as an increase, where the cost of the completed goods remains until goods are sold. When goods are subsequently sold, the costs related to the finished goods sold are transferred out of Finished Goods Inventory, which will decrease the balance in this account, into Cost of Goods Sold, which will reflect an increase. This is the point at which the inventoriable costs now become an expense.

LO: 5, Bloom: K, Difficulty: Medium, AACSB: Communication, AICPA: FC, Measurement, Analysis, and Interpretation, AICPA PC: Communication, IMA: Strategy, Planning & Performance: Strategic Cost Management.

178. How would the direct materials used be computed if they were not directly accounted for?

Ans: Direct materials used can be computed by taking the difference between the beginning balance in the Raw Materials Inventory and the ending balance in the Raw Materials Inventory and then, add to that purchase the total direct materials purchased during the period, and the sum will represent the direct materials used for the period, assuming that no indirect materials were used in production.

LO: 5, Bloom: K, Difficulty: Medium, AACSB: Communication, AICPA: FC, Measurement, Analysis, and Interpretation, AICPA PC: Communication, IMA: Strategy, Planning & Performance: Strategic Cost Management.

179. What is the cost of goods manufactured and how is it computed?

Ans: The cost of goods manufactured represents the costs of the goods that were completed during a period and transferred from the Work-In-Process Inventory to the Finished Goods Inventory. If the costs of the completed goods are not expressly known, the cost of goods manufactured can be computed by adding total manufacturing costs (direct materials used, direct labor and manufacturing overhead) to the beginning balance of the Work-In-Process Inventory and then, deducting the ending balance of the Work-In-Process Inventory.

LO: 5, Bloom: K, Difficulty: Medium, AACSB: Communication, AICPA: FC, Measurement, Analysis, and Interpretation, AICPA PC: Communication, IMA: Strategy, Planning & Performance: Strategic Cost Management.

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180. Explain the difference in the organization of costs in a traditional income statement versus a contribution margin income statement.

Ans: The traditional income statement organizes costs based on function, product versus period costs, and reports gross margin. The contribution margin income statement organizes costs based on behavior, variable versus fixed costs, and reports a contribution margin. Both income statement formats will report the same operating income regardless of the organization of the costs.

LO: 6, Bloom: K, Difficulty: Medium, AACSB: Communication, AICPA: FC, Measurement, Analysis, and Interpretation, AICPA PC: Communication, IMA: Strategy, Planning & Performance: Strategic Cost Management.

181. Discuss the purposes of a traditional income statement versus a contribution margin income statement.

Ans: The traditional income statement is used primarily for external reporting purposes, whereas, the contribution margin income statement is strictly used for internal reporting purposes. The contribution margin income statement format supports internal decision-making since it reports variable and fixed costs separately. The contribution margin income statement is never used for external reporting purposes because the information that it discloses is proprietary.

LO: 6, Bloom: K, Difficulty: Medium, AACSB: Communication, AICPA: FC, Measurement, Analysis, and Interpretation, AICPA PC: Communication, IMA: Strategy, Planning & Performance: Strategic Cost Management.

182. Define the term contribution margin and explain how it is computed.

Ans: Contribution margin is the amount of revenue that remains after deducting total variable costs. That difference contributes to covering total fixed costs and the generation of net income. It is computed with the following equation: Sales less Variable Costs equal Contribution Margin. Contribution margin can be expressed in total or on a per unit basis by deducting the unit variable cost from the unit selling price.

LO: 6, Bloom: K, Difficulty: Medium, AACSB: Communication, AICPA: FC, Measurement, Analysis, and Interpretation, AICPA PC: Communication, IMA: Strategy, Planning & Performance: Strategic Cost Management.

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