**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

**MULTIPLE CHOICE QUESTIONS**

1. Which of the following is a true statement about the definition of costs?
2. An expense is the same as a cost.
3. Noncash charges are not costs since no cash is paid.
4. A cost can be an asset or an expense.
5. 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 .

1. Which of the following statements regarding expenses and costs is correct?
2. Costs and expenses are the same for accounting and reporting purposes.
3. Costs are reported on the income statement or the balance sheet, and expenses are reported only on the income statement.
4. Costs are reported on the income statement, and expenses are reported on the balance sheet.
5. 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.

1. 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?

1. $6,000 of Machine overhaul costs (last year)
2. $3,000 of repair costs (current year)
3. $14,000 of annual operating costs (existing machine)
4. $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.

1. 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?

1. $68,000
2. $72,000
3. $77,000
4. $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

1. Opportunity costs
2. can be found on the income statement as expenses.
3. can be found on the balance sheet as prepaid expenses.
4. relate to decision making but are not reported on the financial statements.
5. 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.

1. A resource sacrificed to bring benefit in the current period, leaving **no** remaining future benefit is a(n)
2. cost
3. expense
4. expenditure
5. revenue

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

1. Which of the following is **not** an expense?
2. Salaries and payroll-related
3. Depreciation
4. Marketing and selling
5. Inventory

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

1. Costs with future benefits are considered
2. expenses.
3. assets.
4. liabilities.
5. 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.

1. Which of the following costs does not impact decision-making for a business?
2. Sunk cost
3. Opportunity cost
4. Product cost
5. Variable cost

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

1. If costs do **not** have objective, measurable future benefit, they are
2. not reported on the financial statements.
3. reported on the balance sheet as an asset.
4. reported on the income statement as an expense.
5. 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.

1. Inventory for a merchandising business is classified as a(n)
2. revenue and an expense.
3. cost and an asset.
4. cost and an expense.
5. 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.

1. If an asset is consumed, used up, or has **no** future benefit, it
2. remains an asset and continues to be reported on the balance sheet.
3. becomes an expense and will be reported on the income statement.
4. becomes an expense but continues to be reported on the balance sheet.
5. 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.

1. Using vertical analysis for the income statement, the base, set at 100%, is
2. total operating expenses.
3. net income.
4. operating income.
5. total revenues.

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

1. 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

1. 31%.
2. 58%.
3. 67%.
4. 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%

1. Using vertical analysis for the balance sheet, the base, set at 100%, is
2. total assets.
3. net income.
4. total stockholders’ equity.
5. total liabilities.

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

1. When comparing the financial reporting for service providers and merchandisers, which of the following statements is correct regarding these two business entities?
2. Operating expenses are significantly different between service providers and merchandisers.
3. Merchandisers report merchandise inventory and cost of goods sold but service providers usually do not.
4. Both business entities report cost of goods sold, but only merchandisers report merchandise inventory.
5. 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.

1. Which of the following is reported on the balance sheet of a merchandiser?
2. Raw materials inventory
3. Finished goods inventory
4. Merchandise inventory
5. 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.

1. For financial statement reporting, Inventories are reported as a(n)
2. cost of goods sold on the income statement.
3. expenses on the income statement.
4. current assets on the income statement.
5. 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.

1. 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?

1. $8,000
2. $23,000
3. $39,000
4. $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.

1. 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?
2. Revenues
3. Cost of goods sold
4. Net income
5. Operating expenses

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

1. The ability of a manufacturer to mark-up its product costs to selling price is reflected in its
2. gross margin (profit).
3. nonoperating expenses.
4. operating expenses.
5. inventory.

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

1. Which of the following costs reported in the financial statements would uniquely identify the business entity as a manufacturer?
2. Rent expense
3. Work-in-process inventory
4. Merchandise inventory
5. 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.

1. Which of the following statements related to a Service Provider is **incorrect**?
2. A Service Provider commonly will not carry inventory or cost of goods sold accounts.
3. Occasionally, a Service Provider will carry goods for sale that complement the service provided.
4. Most costs for a Service Provider are expensed as incurred instead of going through the balance sheet.
5. 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.

1. 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 |

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

1. $46,000
2. $70,000
3. $92,000
4. $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.

1. 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?

1. $135,000
2. $181,000
3. $146,000
4. $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.

1. 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?

1. $119,000
2. $216,000
3. $225,000
4. $350,000

Ans: C, 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 = $68,000 + $42,000 + $35,000 + $27,000 + $44,000 + 9,000 = $225,000

1. 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?

1. $111,000
2. $159,000
3. $237,000
4. $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.

1. 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?
2. $407,900
3. $429,900
4. $451,900
5. $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.

1. 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?
2. $192,250
3. $679,237
4. $679,250
5. $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.

1. 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?

1. $132,000
2. $214,000
3. $217,000
4. $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.

1. Product costs consist of
2. direct materials and direct labor only.
3. direct materials, direct labor, and manufacturing overhead.
4. direct materials, direct labor, and selling expenses.
5. 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.

1. Which of the following is a period cost?
2. Factory rent
3. Factory depreciation
4. Office depreciation
5. 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.

1. Direct costs include
2. direct materials and direct labor.
3. direct materials and manufacturing overhead.
4. direct labor and manufacturing overhead.
5. 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.

1. Which of the following is a non-manufacturing cost?
2. Office supplies
3. Factory rent
4. Materials used to make products
5. 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.

1. Prime costs are defined as
2. direct materials + manufacturing overhead.
3. direct labor + manufacturing overhead.
4. direct materials + direct labor.
5. 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.

1. Prime costs are synonymous with
2. indirect costs.
3. direct costs.
4. conversion costs.
5. 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.

1. Conversion costs are equal to
2. direct materials + direct labor + manufacturing overhead.
3. direct materials + direct labor.
4. direct materials + manufacturing overhead.
5. 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.

1. In computing the cost to manufacture a product, the total prime cost will always be
2. greater than the conversion cost.
3. less than the conversion cost.
4. less than the product cost.
5. 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.

1. 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
2. $77,200 and $97,700.
3. $77,200 and $110,100.
4. $97,700 and $110,100.
5. $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

1. 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

1. $434,000.
2. $446,000.
3. $462,000.
4. $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

1. 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?
2. $20,000
3. $40,000
4. $44,000
5. $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

1. 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

1. $331,000.
2. $340,000.
3. $377,000.
4. $391,000.

Ans: B, LO 3, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, and Interpretation, IMA: Strategy, Planning & Performance: Strategic Cost Management.

Solution: (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

1. 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?

1. $85,000
2. $109,000
3. $124,200
4. $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

1. 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

1. $151,000.
2. $157,400.
3. $171,200.
4. $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.

1. 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 |

Respectively, the total manufacturing and non-manufacturing costs for Miracle Marble are

1. $352,900 manufacturing costs and $58,000 non-manufacturing costs.
2. $361,000 manufacturing costs and $49,900 non-manufacturing costs.
3. $368,800 manufacturing costs and $42,100 non-manufacturing costs.
4. $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

1. A fixed cost
2. remains constant per unit at every level of activity.
3. remains constant in total at every level of activity..
4. varies in total with changes in the level of activity.
5. 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.

1. Variable costs
2. vary in total with a given change in an activity level.
3. increase per unit as activity levels increase.
4. decrease per unit as activity levels decrease.
5. 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.

1. 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?

1. Rent Expense is a variable cost and Factory Labor is a fixed cost.
2. Rent Expense is a fixed cost and Factory Labor is a variable cost.
3. Both Rent Expense and Factory Labor are variable costs.
4. 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.

1. Which of the statements regarding the relevant range for a business is true?
2. No relationship exists between the relevant range for a business and fixed costs and capacity.
3. Within the relevant range for a business, the fixed costs and capacity will always change with the change in the activity level.
4. Within the relevant range for a business, fixed costs stay fixed or constant when the activity level changes.
5. 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.

1. Within the relevant range, if a company’s level of production decreases, variable costs
2. will remain unchanged.
3. increase in total, but remain the same per unit.
4. decrease in total, but remain the same per unit.
5. 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.

1. Within the relevant range, as a company’s level of production increases, fixed costs
2. will remain the same in total and the per unit amount will decrease.
3. increase in total, but decrease the per unit amount.
4. increase in total, but remain the same per unit.
5. 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.

1. Which of the following costs is a variable cost?
2. Factory insurance
3. Factory production labor costs
4. Factory rent
5. 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.

1. Which of the following statements is correct regarding the management of costs for businesses when activity levels may change rapidly?
2. Fixed costs are more manageable than variable costs.
3. Both fixed costs and variable costs are easily managed.
4. Variable costs are more manageable than fixed costs.
5. 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.

1. 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?

1. Unit variable cost would increase but unit fixed cost would not change.
2. Unit variable cost would not change, but unit fixed cost would decrease.
3. Unit variable cost and unit fixed cost would not change.
4. 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.

1. 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?
2. $40,000
3. $44,000
4. $48,000
5. $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.

1. 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?
2. $6,800
3. $7,000
4. $7,600
5. $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.

1. 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?

1. $145,000
2. $196,000
3. $239,000
4. $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.

1. 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?

1. $4,920,000
2. $5,904,000
3. $6,450,000
4. $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.

1. 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?
2. $1,790,000
3. $1,890,000
4. $2,790,000
5. $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.

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

1. 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?

1. unit variable cost, $20.00, and unit fixed cost, $26.67
2. unit variable cost, $20.00, and unit fixed cost, $16.00
3. unit variable cost, $16.00, and unit fixed cost, $33.33
4. 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

1. Manufacturing costs incurred during production are
2. expensed when incurred.
3. inventoriable costs when the units are sold.
4. inventoriable costs, and only expensed when the units are sold.
5. 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.

1. When determining the ending balances in the inventory accounts, the ending balance the Work-In-Process Inventory account represents the manufacturing costs of
2. units that are completed.
3. units that are sold.
4. units not yet started into production.
5. 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.

1. When goods are completed in the production process, they are transferred from
2. Work-In-Process Inventory to Finished Goods Inventory.
3. Raw Materials Inventory to Work-In-Process Inventory.
4. Finished Goods inventory to Cost of Goods Sold.
5. 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.

1. Which account will appear on a company’s income statement?
2. Raw materials inventory
3. Cost of goods sold
4. Cash
5. Accounts payable

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

1. When assigning manufacturing costs to production, which account will be debited?
2. Finished goods inventory
3. Cost of goods sold
4. Work-in-process inventory
5. Manufacturing overhead

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

1. 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?

1. $73,000
2. $129,000
3. $139,000
4. $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.

1. 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?

1. $21,000
2. $39,000
3. $55,000
4. $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.

1. 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?
2. $26,000
3. $34,000
4. $42,000
5. $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.

1. 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

1. $24,400
2. $31,200
3. $46,800
4. $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.

1. 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

1. $56,120
2. $69,120
3. $75,360
4. $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.

1. 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

1. $104,000
2. $107,900
3. $117,100
4. $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

1. 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 |

1. $34,000
2. $37,000
3. $51,000
4. $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

1. Which of the following journal entries is correct to account for the cost of goods completed at the end of a period?
2. Debit Work-in-Process Inventory and credit Finished Goods Inventory
3. Debit Cost of Goods Sold and credit Finished Goods Inventory
4. Debit Finished Goods Inventory and credit Work-in-Process Inventory
5. 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.

1. When accounting for the sale of completed goods, which of the following entries would be correct in recording the sale?
2. Debit Finished Goods Inventory
3. Debit Cost of Goods Sold
4. Credit Cost of Goods Sold
5. Debit Sales

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

1. 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
2. greater.
3. lower.
4. the same amount.
5. 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.

1. Contribution margin is
2. the same as gross margin.
3. the difference between sales and variable costs.
4. the difference between sales and total manufacturing costs.
5. 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.

1. Which of the following statements is true regarding the use of different types of income statements?
2. Traditional GAAP income statements are used for internal financial reporting purposes only.
3. Contribution margin income statements are used for external financial reporting purposed only.
4. Traditional GAAP income statements separate variable and fixed costs, which help in internal decision making.
5. 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.

1. Full cost is
2. the same as product cost.
3. made up of both product costs and period costs.
4. made up of variable costs and period costs.
5. 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.

1. Gross margin equals
2. variable costs plus fixed costs.
3. sales less variable costs.
4. sales less cost of goods sold.
5. 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.

1. 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
2. are equal.
3. are greater.
4. are lower.
5. 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.

1. A contribution margin income statement is organized by
2. function.
3. cost behavior.
4. product vs. period costs.
5. 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.

1. Which of the following business activities would **not** be considered a value-added activity in the value chain of a business?
2. Research & Development
3. Distribution
4. Inspection and Rework
5. Design

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

1. 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?
2. $145,000
3. $155,000
4. $195,000
5. $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.

1. 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?
2. Variable,$25,000 and Fixed, $50,000
3. Variable,$50,000 and Fixed, $25,000
4. Variable,$35,000 and Fixed, $40,000
5. 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.

1. 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?
2. $30,000
3. $36,000
4. $40,000
5. $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.

1. 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

1. $128,000
2. $150,000
3. $178,000
4. $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.

1. 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

1. $171,000
2. $187,000
3. $215,000
4. $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.

1. 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 |

The Sales for Nyce Vending are

1. $166,000
2. $168,000
3. $209,000
4. $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.

1. 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

1. $306,000
2. $508,000
3. $543,000
4. $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**

1. 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

1. 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

1. 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.

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).

1. 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.

1. 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

Ans andSolution:

 \_\_\_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.

1. 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

1. 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

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

1. 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

1. 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.

1. 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 |

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

1. 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

1. 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

1. 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

1. 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.

1. 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?

 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.

1. 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.

1. 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 (d) [100 units x $5.00] ÷ 400 units = $1.25

(b) $7.00 [from (a)] x 100 units = $700 (e) $20.00 – [$8.00 + $1.25 from (d)] = $10

(c) $8.00; unit variable cost same (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.

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

1. 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

1. 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.

1. 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

1. 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

1. 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

1. 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 |

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

1. 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

1. 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.

1. 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

1. 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

1. 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

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 – 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

1. 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

1. 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

**EXERCISES**

1. 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)

1. 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

1. 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%

1. 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 |

LO 1, Bloom: AP, Difficulty: Medium, AACSB: Analytic, AICPA: FC, Measurement, Analysis, 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 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

1. 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.

1. 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

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

1. 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

1. 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?

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.

1. 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 ScrubIncome StatementDecember 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.

1. 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?

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

1. 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

1. 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 |

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.

1. 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

1. Mystique Manufacturing had sales revenue last year of $450,000, variable manufacturing costs of $135,000, and fixed manufacturing costs of $60,000.
	1. 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?
	2. 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.

1. 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,

1. What amount of total variable and fixed costs will the company recognize?
2. 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.

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

1. 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%.
2. 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?
3. 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

1. 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 |

* 1. 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?
	2. 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?

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.

1. 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

* 1. How much of the direct materials were used in production during the current month?
	2. 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:

1. 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.
2. 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.

1. 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.

1. 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.

1. 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.

* 1. Prepare the necessary journal entries to record the production of units for July.
1. 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.

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

1. 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.

1. 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.

 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

1. 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

1. 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 |

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

1. 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.

1. 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 |

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**

1. 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

1. 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.

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 %

1. 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

1. 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.

1. 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?

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

1. 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.
2. What is the gross margin and operating income for this Produce Palace, Inc. at year- end using a traditional income statement approach?
3. 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

1. 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 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

1. 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

1. 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

1. 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.

1. 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?
2. 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?
3. 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 $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

1. 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

1. Manseco Manufacturing had sales revenue last year of $500,000, variable manufacturing costs of $320,000, and fixed manufacturing costs of $80,000.
2. 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?
3. 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:

1. 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
2. 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.

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

1. 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:

1. Total Manufacturing Costs = Direct Materials Used + Direct Labor + Manufacturing Overhead = $23,000 + $65,000 + $14,000 = $102,000
2. 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
3. Direct Materials Used = Total Manufacturing Costs – Direct Labor – Manufacturing Overhead = $157,000 - $44,000 - $25,000 = $88,000
4. Work-In-Process (ending) = Total Manufacturing Costs + Work-In-Process (beginning) – Cost of Goods Manufactured = $157,000 + $69,000 - $153,000 = $73,000
5. Manufacturing Costs = Total Manufacturing Costs – Direct Materials Used - Direct Labor = $107,000 - $52,000 - $38,000 = $17,000
6. 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

1. 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

1. 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

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%)

1. 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).

1. Is the operating income different based on the type of income statement prepared?
2. 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 |

1. The operating income is not different; it is exactly the same in both statement formats.
2. 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.

1. 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

1. 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:

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**

1. 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.

1. 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.

1. 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.

1. 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.

1. 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.

1. 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.

1. 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.

1. 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.

1. 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.

1. 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.

1. 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.

1. 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, 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.

1. 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.

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1. 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.

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1. 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.

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1. 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.

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1. 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.

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1. 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.

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