**1)** Assume that NBD firm’s bicycle has fixed costs of $101,250. Each unit generates variable costs of $80 and sells for $125.00. What is the break-even point?

**2)** The following are production and cost data for two products, X and Y.

Product X Product Y

Contribution margin per unit $450 $280

Machine set-ups needed per unit 25 14

The company can only perform 14,000 set-ups each period yet there is unlimited demand for each product. What is the maximum contribution margin for the year?

**3)**  Glendale Corporation uses an activity-based costing system with three activity cost pools. The company has provided the following data:

Costs:

Depreciation $225,000

Utilities 150,000

Wages and Salaries 314,000

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Total $689,000

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Resources are consumed as follows:

Activity Cost Pools

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Assembly Setting Up Other Total

Depreciation 30% 20% 50% 100%

Utilities 20% 40% 40% 100%

Wages and salaries 40% 45% 15% 100%

How much total cost would be allocated to the Assembly cost pool?

**4)** Koreen Manufacturing Co. has three production departments. Koreen allocates maintenance costs to the departments based on their use of machine hours. The maintenance cost for March was $180,000. The departments useage of labour and machine hours in March were:

Department Machine hours Labor hours

A 500 3,000

B 500 5,000

C 800 2,000

How much maintenance cost should be allocated to the department B for March?

**5)** Santa Company has $27 per unit in variable costs and $1,000,000 per year in fixed costs. Demand is estimated to be 100,000 units annually. What is the price if a markup of 40% on total cost is used to determine the price?

**6)** Sanai manufacturing company produces and sells 40,000 units of a single product. Variable costs total $80,000 and fixed costs total $120,000. If each unit is sold for $8, what markup percentage is the company using?

**7)** A General Motors executive is considering how to price the 2013 Chevy Volt electric car in order to maximize profits for the company. Manufacturing each Volt involves $9,500 of materials, $12,500 of labor, $3,800 of shipping, and $4,000 of other supplies. The Detroit facility where the Volt is manufactured has $12.5 million of fixed costs. The marketing department says that adding a Bose sound system would boost demand, but it would cost an additional $750 per unit.

The quantity demanded at each per unit price is as follows:

|  |  |  |
| --- | --- | --- |
|  | **Quantity** | **Quantity** |
|  | **Demanded** | **Demanded** |
| **Price** | **(No Bose)** | **(With Bose)** |
| $29,000 | 14,000 | 16,800 |
| $30,000 | 11,200 | 13,440 |
| $31,000 | 8,960 | 10,752 |
| $32,000 | 7,168 | 8,602 |
| $33,000 | 5,734 | 6,881 |
| $34,000 | 4,588 | 5,505 |
| $35,000 | 3,670 | 4,404 |
| $36,000 | 2,936 | 3,523 |
| $37,000 | 2,349 | 2,819 |
| $38,000 | 1,879 | 2,255 |
| $39,000 | 1,503 | 1,804 |
| $40,000 | 1,203 | 1,443 |

What profit-maximizing strategy should she choose?

A) $34,000 price without Bose sound system.

B) $40,000 price with Bose sound system.

C) $35,000 price with Bose sound system.

D) $32,000 price without Bose sound system.

**8)** Sarker manufacturing company produces and sells 40,000 units of a single product. Variable costs total $80,000 and fixed costs total $120,000. If each unit is sold for $8, what markup percentage is the company using?

**9)** Troto company has total fixed costs of $6,000,000 and total variable cost of $3,000,000 at a volume level of 300,000 units. What price would be charged if the company used cost plus pricing and a markup of 30%?

**10)** The Mermaid Company sells one product with a variable cost of $5 per unit. The company is unsure what price to charge in order to maximize profits. The price charged will also affect the demand. If fixed costs are $100,000 and the following chart represents the demand at various prices, what price should be charged in order to maximize profits?

Units Sold Price

30,000 $10

40,000 $9

50,000 $8

60,000 $7