
Definitions:

Revenue	=
Cost	=
Profit	=
Marginal Cost	=
Fixed Costs	=
Break Even Point	=

Problems:

1. Write the cost function for a trailer hauling service which charges \$45 plus \$2 per mile.

2. The total cost (in dollars) to produce x compact discs is

$$C(x) = 6.80x + 450,000.$$

(a) What are the fixed costs?

(b) What is the marginal cost per disk?

(c) What is the total cost of producing 50,000 discs?

(d) What is the average cost per disk when 50,000 discs are made?

(e) If the CD's sell for \$15, what is the break even point?

3. A car dealer purchases 20 new cars for \$16,000 each. If he sells 16 of them at a profit of 20%, for how much must he sell the remaining 4 cars to obtain an average profit of 18%?

4. In deciding whether to set up a new manufacturing plant, company analysts have decided that a linear function is a reasonable estimation for the total cost $C(x)$ in dollars to produce x items. They estimate the cost to produce 10,000 items as \$547,500 and the cost to produce 50,000 items as \$737,500.

(a) Find a formula for $C(x)$.

(b) Find the total cost to produce 100,000 items.

(c) Find the marginal cost of the items produced in this plant.

5. The profit (in millions of dollars) from the sale of x million units of Blue Glue is given by $p = 0.7x - 25.5$. The cost is given by $c = 0.9x + 25.5$.

(a) Find the revenue equation.

(b) What is the revenue from selling 10 million units?

(c) What is the break even point?