Lesson 5 Slope-Intercept Form of a Linear Function__

A linear equation is an equation where the graph would be an oblique line when drawn in the coordinate plane.

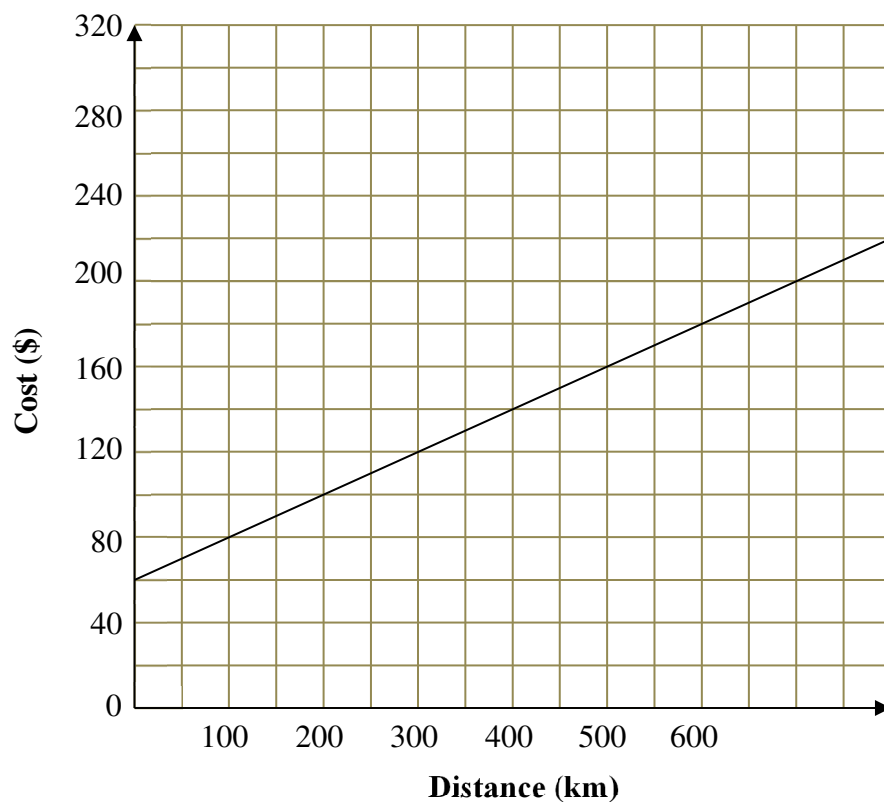**Slope-Intercept Form of the Equation of a Linear Function**

Example 1

The graph of a linear function has a slope of $\frac{3}{5}$ and *y*-intercept at –4. Write an equation for this function.

Example 2

Write an equation given the following graph.

Car Rental Costs

Example 3

Student council sponsored a dance. A ticket cost $5 and the cost for the DJ was $300.

   a) Write an equation for the profit, *P* dollars, on the sale of *t* tickets.
   b) Suppose 123 bought tickets. What was the profit?
   c) Suppose the profit was $350. How many people bought tickets?
   d) Could the profit be exactly $146? Justify the answer.

Prove a point is on a given line

We can prove whether or not a given point P (x, y) is on a line by substituting the *x* and *y*-coordinates into the equation and solving for the Left Hand Side (LHS) and the Right Hand Side (RHS). If both sides are ***equal***, the point is on the line.

Example 4

Determine whether P $(4, 3)$ is on the line $3x - 2y - 6 = 0$