

Slope of a Line

Slope: the steepness of a line

- The slope m of a line can be computed by finding the quotient of the rise and the run.

$$m = \frac{\text{rise}}{\text{run}}$$

- The slope m of the line passing through two points $P_1(x_1, y_1)$ and $P_2(x_2, y_2)$ is given by

$$m = \frac{y_2 - y_1}{x_2 - x_1}, \text{ where } x_1 \neq x_2.$$

- The slope of the horizontal line is zero while that of the vertical line is undefined.
- The value of the slope m tells the trend of the graph.
 - If m is positive, then the graph is increasing from left to right.
 - If m is negative, then the graph is decreasing from left to right.

- If m is zero, then the graph is a horizontal line.
- If m is undefined, then the graph is a vertical line.