

Name 3.4

Alg I

Find Slope and Rate of Change

I can find the slope of a line and interpret slope as a rate of change.

Slope: The ratio of the vertical change (rise) to the horizontal change (run) of any 2 points on a line

$$\text{Slope} = \frac{\text{rise}}{\text{run}} = \frac{\text{change in } y}{\text{change in } x}$$

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

Ch. 3 Quiz

Example 1:

1) $(x_1, y_1) (x_2, y_2)$ $(5, 2) (4, -1)$ $m = \frac{-1 - 2}{4 - 5} = \frac{-3}{-1} = 3$

2) $(x_1, y_1) (x_2, y_2)$ $(-2, 3) (4, 6)$ $m = \frac{6 - 3}{4 - (-2)} = \frac{3}{6} = \frac{1}{2}$

3) $(x_1, y_1) (x_2, y_2)$ $(\frac{1}{2}, 5) (\frac{1}{2}, 3)$ $m = \frac{3 - 5}{\frac{1}{2} - \frac{1}{2}} = \frac{-2}{0} = \text{undefined}$

Example 2/3/4:

4) $(x_1, y_1) (x_2, y_2)$ $(5, 2) (5, 2)$ $m = \frac{2 - 2}{5 - 5} = \frac{0}{0} = \text{undefined}$

5) $(x_1, y_1) (x_2, y_2)$ $(0, 4) (-3, 4)$ $m = \frac{4 - 4}{-3 - 0} = \frac{0}{-3} = 0$

6) $(x_1, y_1) (x_2, y_2)$ $(0, 6) (5, -4)$ $m = \frac{-4 - 6}{5 - 0} = \frac{-10}{5} = -2$