

Do NOT move the desk!!
Turn your phone OFF!!
Put your phone up!!
Sit down!!
Be quiet!!
Prepare to work!!
Keep your hands to yourself!!

Softbook - Pg 23

Slope of a Line

$$a) \text{ Slope } \Rightarrow m = \frac{\text{Rise}}{\text{Run}} = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x_2 - x_1}$$

$$\text{points} \Rightarrow \begin{array}{cc} (x_1, y_1) & (x_2, y_2) \\ (3, 4) & (-2, -5) \\ x_1 \ y_1 & x_2 \ y_2 \end{array}$$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-5 - 4}{-2 - 3} = \frac{-9}{-5} = \frac{9}{5}$$

$$= \frac{4 - (-5)}{3 - (-2)} = \frac{9}{5}$$

$$3) \begin{matrix} (-1, -4) & (1, 4) \\ x_2 & y_2 & x_1 & y_1 \end{matrix}$$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-4 - 4}{-1 - 1} = \frac{-8}{-2} = \frac{4}{1}$$

$$4) \begin{matrix} (1, 2) & (-3, 2) \\ x_1 & y_1 & x_2 & y_2 \end{matrix}$$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{2 - 2}{-3 - 1} = \frac{0}{-4} = 0$$

$$\star \begin{matrix} (-3, -2) & (-1, -4) \\ x_1 & y_1 & x_2 & y_2 \end{matrix}$$

$$m = \frac{-4 - (-2)}{-1 - (-3)} = \frac{-2}{2} = \frac{-1}{1}$$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{2 - 2}{-3 - 1} = \frac{0}{-4} = 0$$

$$y = mx + b$$

$$y = 0x + 3$$

$$y = 3$$

$$\leftarrow \text{m} = 0 \quad \text{b} = 3 \rightarrow$$

$$m = 0$$

$$\text{Rep} \Rightarrow \frac{1}{0} = \text{undefined}$$

$$x = 3$$

$$m = \text{und}$$

$$\downarrow \text{b} = \text{none}$$