

8.1-8.5 REVIEW

Standard Form of a Linear Equation

$$ax + by = c$$

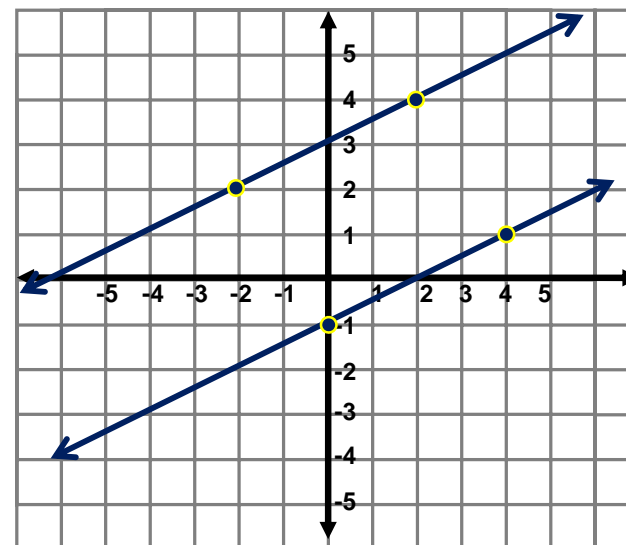
SLOPE FORMULA

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

If you do not have the graph of a line use...

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

SLOPE OF PARALLEL LINES



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

$$y = \frac{1}{2}x + 3$$

$$y = \frac{1}{2}x - 1$$

What's the relationship between the two slopes?

$$y = 2x - 2 \quad y = -\frac{1}{2}x + 3$$

$$y = \frac{3}{4}x + 1 \quad y = -\frac{4}{3}x - 2$$

The slopes of perpendicular lines are OPPOSITE RECIPROCALs of each other.

NOTE!

When you multiply the slopes of two perpendicular lines, their product will be equal to -1.

$$2 \bullet -\frac{1}{2}$$

$$\frac{3}{4} \times -\frac{4}{3}$$

Slope-Intercept Form of a Linear Equation

$$y = mx + b$$

POINT-SLOPE FORM of a Linear Equation

$$y - y_1 = m(x - x_1)$$

m = the slope

(x_1, y_1) = any given point