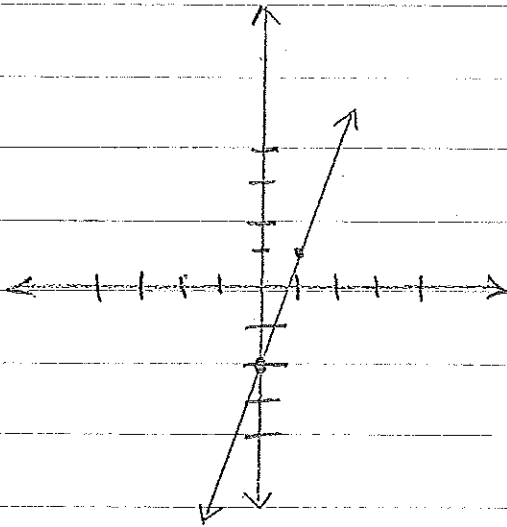


Parallel: slopes are the exact same, Ex $\frac{2}{3}$ and $\frac{2}{3}$, -3 and -3

Perpendicular: slopes are complete opposites, (fraction + sign) Ex $\frac{2}{3}$ and $-\frac{3}{2}$, -3 and $\frac{1}{3}$

Graph the line using the point and slope.

Ex: $(0, -2)$ $m=3$



1st, plot point $(0, -2)$

2nd, from that point, do your slope $\frac{3}{1}$ up 1 right

* Don't make it more complicated - these are "nice" problems

Reminders:

Zero slope = $\frac{0}{a \neq 0}$ → reduces to 0 $m=0$

* looks like

Undefined slope = $\frac{a \neq 0}{0}$ → means $m=U$

* looks like

Find Slope using 2 points: $m = \frac{y_2 - y_1}{x_2 - x_1}$

$(8, 3)$ $(2, 5)$

→ x_1, y_1 x_2, y_2

label your points: (x_1, y_1) (x_2, y_2)

→ plug #s in: $m = \frac{5-3}{2-8} = \frac{2}{-6} = -\frac{1}{3}$

always reduce!

$$\boxed{\text{Slope}} = \frac{\text{rise} \begin{matrix} + \\ (\text{up or down}) \end{matrix}}{\text{run} \begin{matrix} - \\ (\text{left or right}) \end{matrix}}$$

$$\boxed{\text{Positive slope}}: \frac{2}{3} \quad \frac{\text{up } 2}{\text{right } 3}$$

$$\boxed{\text{Negative slope}}: -\frac{2}{3} \quad \text{mc. Lake: } \frac{-2}{3} \quad \frac{\text{down } 2}{\text{right } 3}$$

↳ or (this is also correct): $\frac{2}{-3} \quad \frac{\text{up } 2}{\text{left } 3}$

Tell Whether the Order Pair is a Solution:

Ex: $(2, 3) \quad y = 2x + 7$
 $\quad \quad \quad x, y$

* plug in x and y and see if each side of the = sign actually equals other.

$$3 \stackrel{?}{=} 2(2) + 7$$

$$3 = 4 + 7$$

$$3 = 11 \quad \text{No! } (2, 3) \text{ is not a solution}$$

Find the x-intercept and y-intercept. You are finding 2 points (x,y)

$y=0, \text{ find } x \quad \quad \quad x=0, \text{ find } y$

$(x, 0) \quad \quad \quad (0, y)$

Ex: $y = 2x - 7$

x-int

$$y = 0$$

$$0 = 2x - 7$$

$$\begin{array}{r} +7 & +7 \\ \hline 7 = 2x & \\ \frac{7}{2} = \frac{2x}{2} & \\ x = \frac{7}{2} & \end{array} \quad \left(\frac{7}{2}, 0 \right)$$

y-int

$$x = 0$$

$$y = 2(0) - 7$$

$$y = 0 - 7$$

$$y = -7$$

$(0, -7)$

* graph these 2 points and draw your line through them