

Parallel } Slope
Perp. } $y = (m)x + b$ = "y" is
 ↑ a happy
 loner.

Vertical } Slope
horizontal }

X-int ($y=0$)
y-int ($x=0$) } point

2. Slope: $-\frac{1}{6}$ (x_1, y_1)
 Point: $(3, -1)$
 (x_2, y_2)
 (x, y)

$$y = mx + b$$

OPP
Rec. Slope

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

$$y + 6x = 3 + 6x$$

$$y = 6x + 3$$

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

$$-\frac{1}{6} = \frac{y + 1}{x - 3}$$

$$-1(x - 3) = 6(y + 1)$$

$$-x + 3 = 6y + 6$$

$$-x - 6y + 3 - 6 = 0$$

$$-x - 6y - 3 = 0$$

$$+x + 6y + 3 = 0$$

3. Slope: $\frac{1}{0}$
 Point: $(4, 0)$
 (x_1, y_1)
 (x_2, y_2)

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

$$\frac{1}{0} = \frac{y - 0}{x - 4}$$

$$(x - 4) = 0$$

$$x - 4 = 0$$

4. Slope: $\frac{1}{6}$
 Point: ~~$(-6, 0)$~~ $(0, 1)$
 (x_1, y_1)
 (x_2, y_2)

$(-6, 0)$ $(0, 1)$
 $m = \frac{y_2 - y_1}{x_2 - x_1}$
 $m = \frac{1 - 0}{0 - (-6)}$
 $m = \frac{1}{6}$

x-int ($y=0$)

$8y - 4x + 2 = 26$
 ~~$8y$~~ $-4x + 2 = 26 - 2$
 $-4x = 24$
 $\frac{-4x}{-4} = \frac{24}{-4}$
 $x = -6$

y-int ($x=0$)

$2(y-1) = 12x$
 $2y - 2 = 12x$
 $2y = 2$
 $y = 1$

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

$\frac{1}{6} = \frac{y-1}{x-0}$

$1(x-0) = 6(y-1)$

$x = 6y - 6$

$x - 6y + 6 = 0$

5.

$$4(y-1) = 24x+2$$

$$4y - 4 = 24x+2$$

$$4y = 24x+2+4$$

$$\frac{4y}{4} = \frac{24x+6}{4}$$

$$y = 6x + \frac{3}{2}$$

$-\frac{1}{6}$

X-int (y=0)

$$8(2y-3) = 4x$$
~~$$10y - 24 = 4x$$~~

$$\frac{-24}{4} = \frac{4x}{4}$$

$$x = -6$$

Slope: $-\frac{1}{6}$

Point: $(-6, 0)$

(x_1, y_1)

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

$$-\frac{1}{6} = \frac{y-0}{x+6}$$

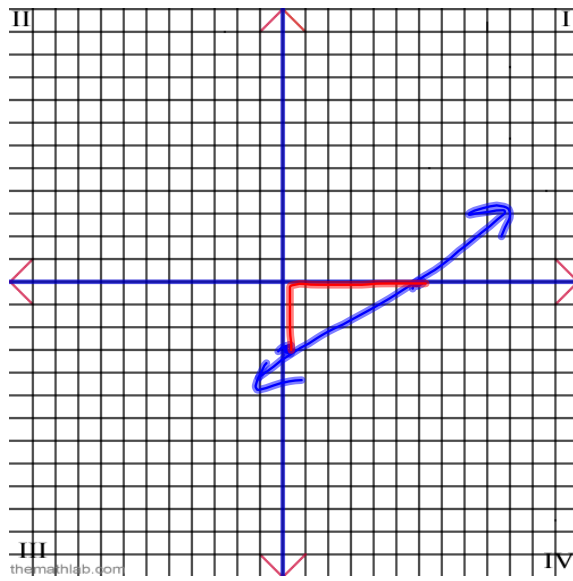
$$-1(x+6) = 6(y-0)$$

$$-1x-6 = 6y$$

$$-1x-6y-6=0$$

$$1x+6y+6=0$$

7 a)



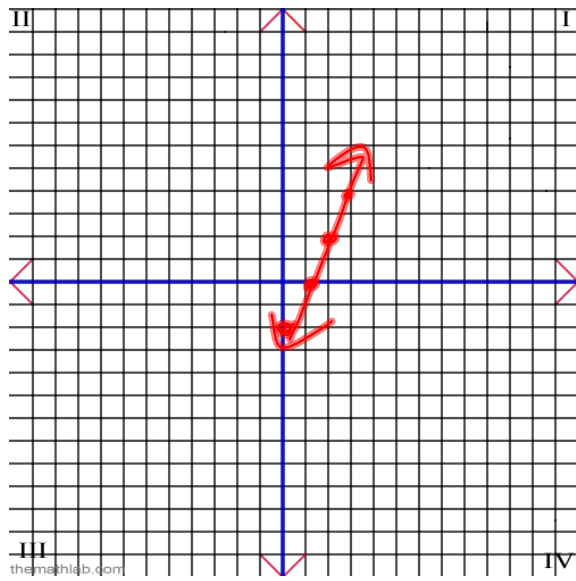
$$y = m x + b$$

Arrows point from the circled m and b to the hash symbols $\#$.

$$y\text{-int } (b) = -3$$
$$\text{Slope } (m) = \frac{\text{rise}}{\text{run}} = \frac{3}{6} = \frac{1}{2}$$

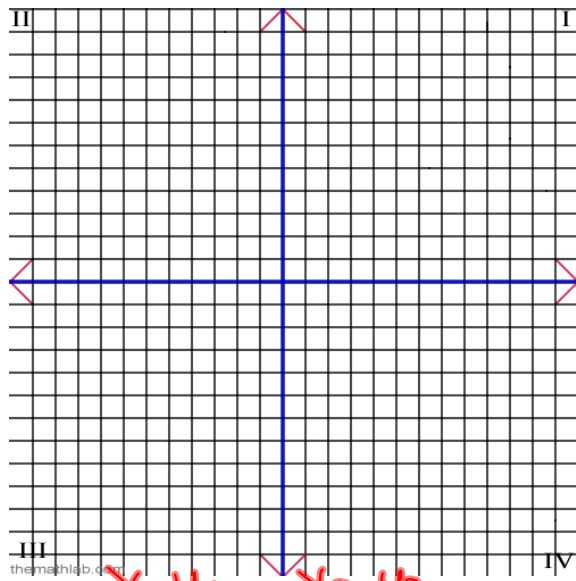
$$y = \frac{1}{2}x - 3$$

8
2



$$\begin{aligned}2(y-2) &= 4x-8 \\2y-4 &= 4x-8+4 \\2y &= 4x-\frac{4}{2} \\y &= 2x-2\end{aligned}$$

Start Slope: $2/1$ $\frac{\text{rise}}{\text{run}}$
→ y-int : -2
 $y = 2x - 2$



$$(x_1, y_1) \quad (x_2, y_2)$$

Find Slope

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

$$m = \frac{3 - 1}{2 - 5}$$

$$m = \frac{2}{-3}$$

