4.7 Graphing from Point-Slope Form

Point-Slope Form: $\overset{\text{y-coord.}}{y} - y_1 = m(x - \overset{\text{x-coord.}}{x_1})$

when taking point fom a

pt-slope Form equation: Think opposite for x- & y- coordinate.

Ex1) Graph each equation.

a) $\overset{\text{y-coord.}}{y} - 2 = -\frac{3}{2}(x + \overset{\text{x-coord.}}{2})$

Step 1: Plot the point: $(-2, 2)$

Step 2: Apply slope from the point to get other points.

$\dfrac{\text{up 3}}{\text{left 2}}$ or $m = -\dfrac{3}{2} = \dfrac{\text{down 3}}{\text{right 2}}$
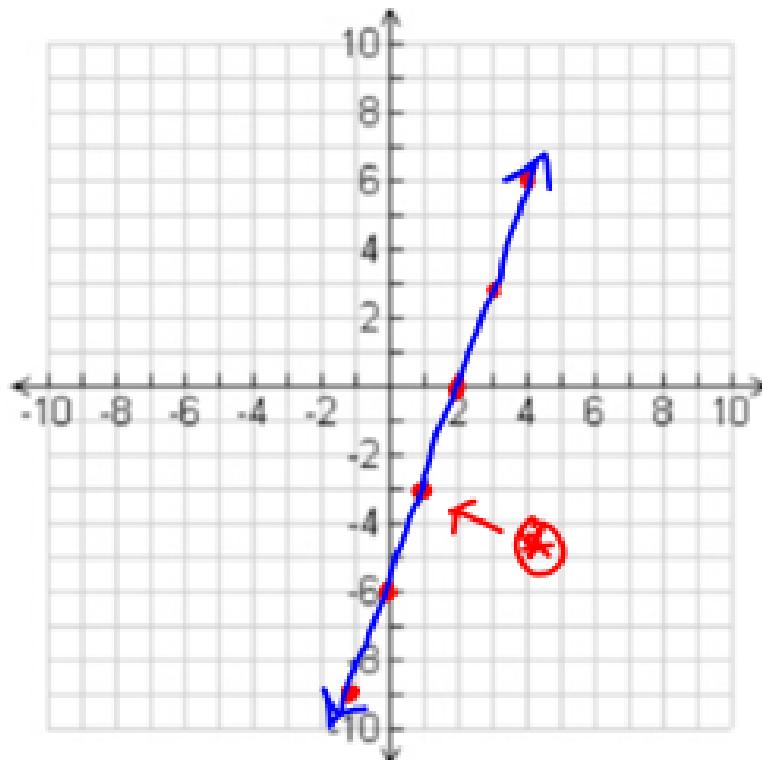
Step 3: Connect the points with a line.

b) $y + \overset{y}{3} = 3(x - \overset{x}{1})$
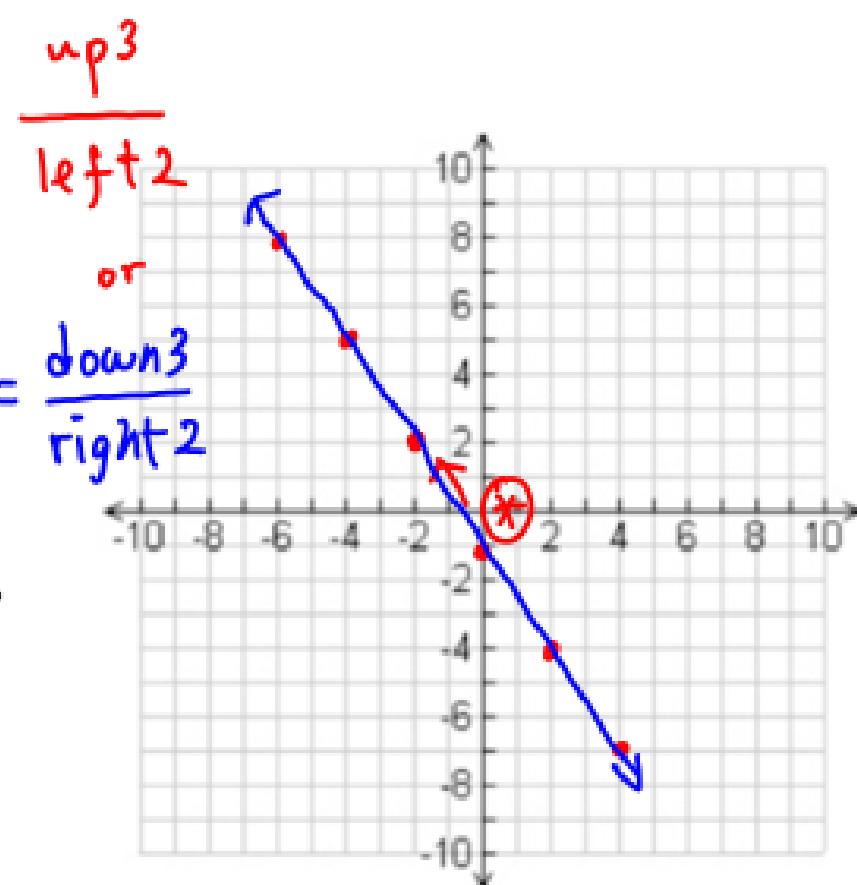
1) pt: $(1, -3)$

2) $m = \dfrac{3}{1} = \dfrac{\text{up } 3}{\text{right } 1}$ or $\dfrac{\text{down } 3}{\text{left } 1}$

c) $y + \overset{y}{4} = -4(x + \overset{x}{2})$

1) pt: $(-2, -4)$

2) $m = \dfrac{-4}{1} = \dfrac{\text{down } 4}{\text{right } 1}$ or $\dfrac{\text{up } 4}{\text{left } 1}$
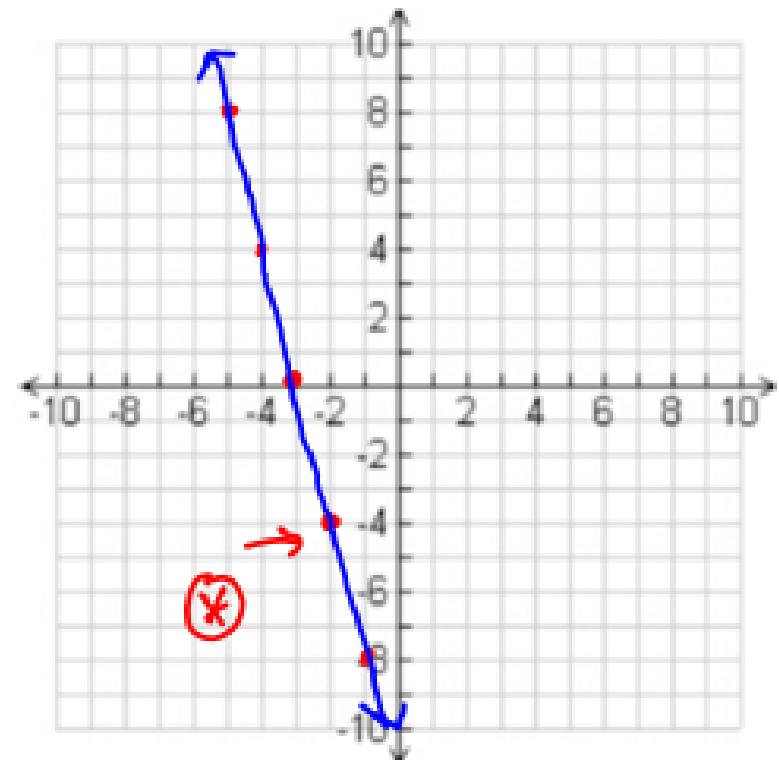
Ex2) Write the equation in slope-intercept form and standard form. (General Form)

$Ax + By = C$; A must be "+" whole #.

$\nearrow y = mx + b$

a) $y - 1 = \dfrac{3}{2}(x + 2)$

b) $y + 4 = -3(x - 2)$

1) Distribute

2) Solve for y

3) Standard Form:

$Ax + By = C$

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

$\underline{+1 \qquad\qquad\qquad +1}$

$\boxed{y = \dfrac{3}{2}x + 4}$ Slope-int Form

$-2\left(-\dfrac{3}{2}x + y = 4\right)$

$\boxed{3x - 2y = -8}$ Standard Form

$y + 4 = -3x + 6$

$\underline{-4 \qquad\qquad\qquad -4}$

$\boxed{y = -3x + 2}$

$\boxed{3x + y = 2}$