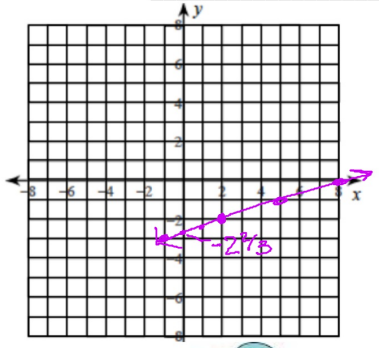
CW 3.3.4

Name _____

1. Graph the line that passes through the point (2, -2) and has a slope of $\frac{1}{3}$.



Find the y-intercept. $-2\frac{2}{3}$

$2(\frac{1}{3}) = \frac{2}{3}$

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

Write the equation of the line in slope-intercept form y = mx + b.

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

Given a point and a slope, write an equation in Slope-Intercept Form.

(-8, 3); m = $\frac{1}{4}$

x y

$y = mx + b$

$3 = \frac{1}{4}(-8) + b$

$\frac{1}{4}(-8) = -2$

$3 - -2 = 5$

$3 = -2 + b$

$+2 \quad +2$

$5 = b$

$y = \frac{1}{4}x + 5$

(-3, 5); m = -2

x y

$y = mx + b$

$5 = -2(-3) + b$

$-2(-3) = 6$

$5 - 6 = -1$

$5 = 6 + b$

$-6 \quad -6$

$-1 = b$

$y = -2x + -1$

(-2, 0); m = $\frac{4}{3}$

x y

$y = mx + b$

$0 = \frac{4}{3}(-2) + b$

$\frac{4}{3}(-2) = -\frac{8}{3}$

$0 - -\frac{8}{3} = \frac{8}{3}$

$0 = -\frac{8}{3} + b$

$+\frac{8}{3} \quad +\frac{8}{3}$

$\frac{8}{3} = b$

$y = \frac{4}{3}x + \frac{8}{3}$

Given a point and a slope, write an equation in Slope-Intercept Form.

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

x y

$y = mx + b$

$1 = -\frac{1}{4}(2) + b$

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

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

$1 = -\frac{1}{2} + b$

$+\frac{1}{2} \quad +\frac{1}{2}$

$1.5 = b$

$y = -\frac{1}{4}x + 1.5$

(-1, 4); m = 0

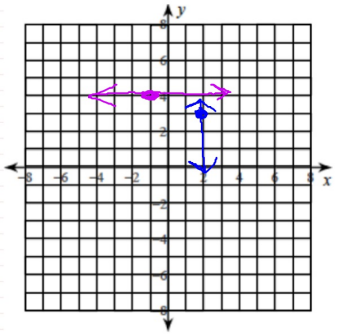
horizontal line

$y = 4$

(2, 3); m = undefined

vertical line

$x = 2$



Real-Life Situation:

A plumber charges a service fee plus $27 per hour. After working 3 hours he charges you $95.50. Write an equation to represent the situation. (Hint - find the slope and a point, and determine the y-intercept.)

$m = 27$ $(3, 95.50)$

$y = mx + b$

$95.50 = 27(3) + b$

$95.50 = 81 + b$

$-81 \quad -81$

$14.50 = b$

$27(3) = 81$

$95.50 - 81 = 14.50$

$y = 27x + 14.50$