slope-Intercept Form

Name: _____ **Date:** _____ **Period:** _____

Explore Slope: $y = mx + b$ → Slope

1. $y = \frac{1}{2}x - 4$ $m = \frac{1}{2}$ $b = -4$

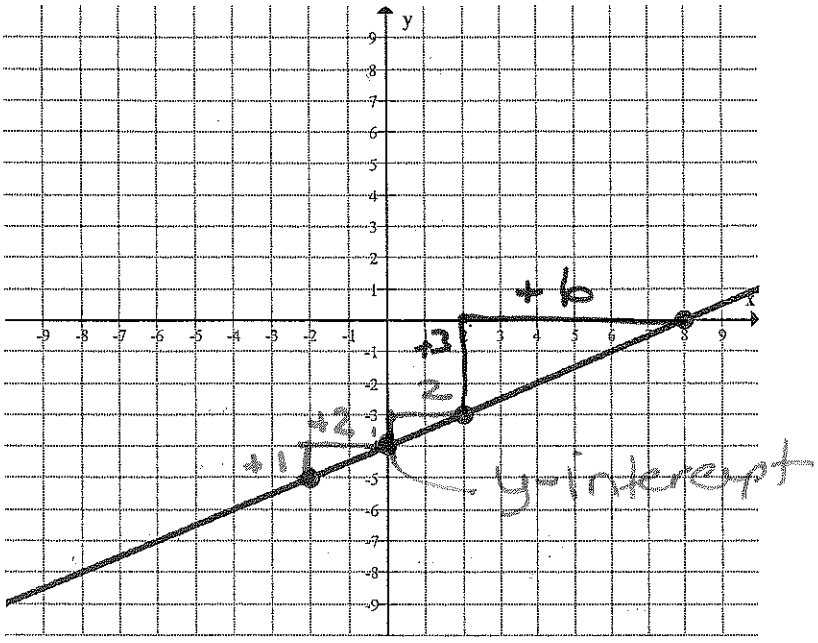
Locate the point (-2, -5)
Next, locate the point (0, -4).

a) Starting at (-2, -5), how many units do you have to count up to be level with (0, -4)? +1

b) From that point, how many units do you have to count right to be at (0, -4)? +2

c) Write as a ratio: $\frac{1}{2}$

d) Repeat for (0, -4) and (2, -3) $\frac{1}{2}$



e) Repeat for (2, -3) and (8, 0). $\frac{3}{6}$

f) What do you notice about the three ratios? $\frac{1}{2} = \frac{1}{2} = \frac{3}{6}$
They are the same

g) What is the y-intercept?
$b = -4$ $(0, -4)$

Compare the ratios and y-intercept to the original equation. What do you notice?

They are the m & b in the equation, so this is the graph of the equation

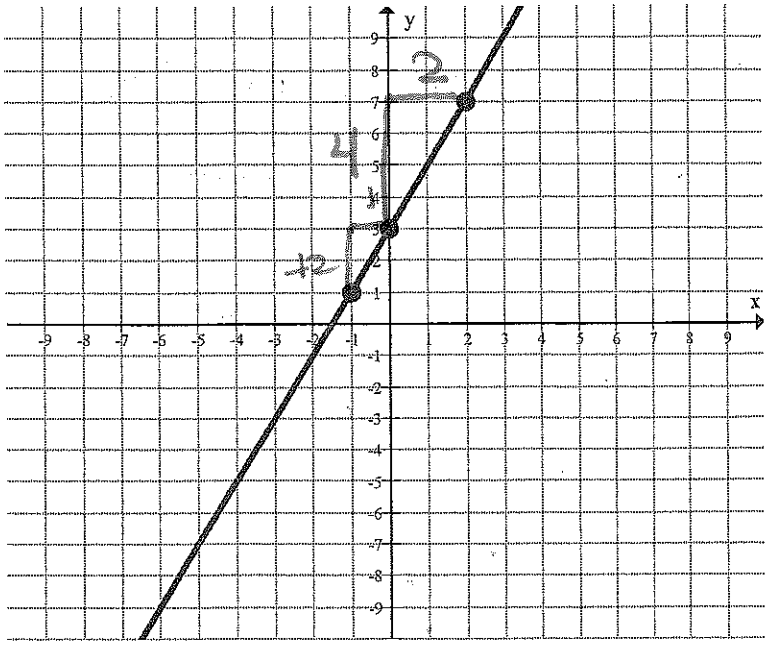
★ Ratio is the m

★ y-intercept is the b
$(0, b)$

★ This is increasing graph
+ slope

2) $y = 2x + 3$ ← slope ← y-intercept

Locate the point (-1, 1)
Next, locate the point (0, 3).



a)Starting at (-1, 1), how many units do you have to count up to be level with (0, 3)? +2

b) From that point, how many units do you have to count right to be at (0, 3)? +1

c) Write as a ratio: $\frac{2}{1}$

d) Repeat for (0, 3) and (2, 7). $\frac{4}{2}$

f) What do you notice about the two ratios? They both = 2

g) What is the y-intercept? (0, 3)

Compare the ratios and y-intercept to the original equation. What do you notice?

They are the same m & b

Teacher Notes: