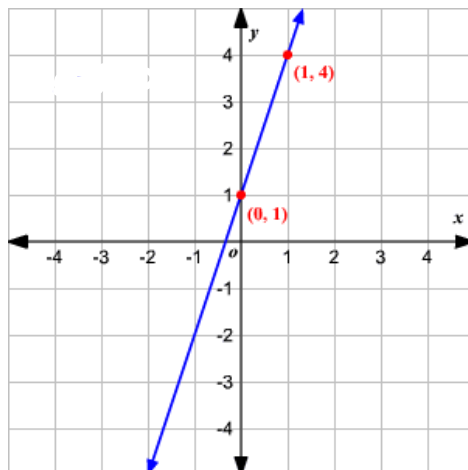*Lesson 4-1*

Writing equations in Slope Intercept Form

Your Name

Mrs. T

11 / 3 / 7

Notes

Objective: To be able to write an equation in Slope Intercept form given a point and the slope and any two points.

Life Lesson/Math Skill: In life you are not often given exactly what you need, you have to work to find it. To be able to model life situations, you are often given just data or points and expected to write the equation from them.

If you are given a point and slope | plug the x, y, and m in and solve for b

Goal:

(-5,4), m = -3

$y = mx + b$

$4 = -3(-5) + b$

$4 = 15 + b$

$-15 \quad -15$

$-11 = b$

$y = -3x - 11$

(4,3), m = 1/2

$y = mx + b$

$3 = \frac{1}{2}(4) + b$

$3 = 2 + b$

$-2 \quad -2$

$1 = b$

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

... when given one point and the slope and asked to graph

(-5, 4) m= -3 $= -\frac{3}{1} = \frac{-3}{-1} = \frac{3}{-1}$

Start at point

move slope

$y = -3x - 11$

-1

3

-3

-11
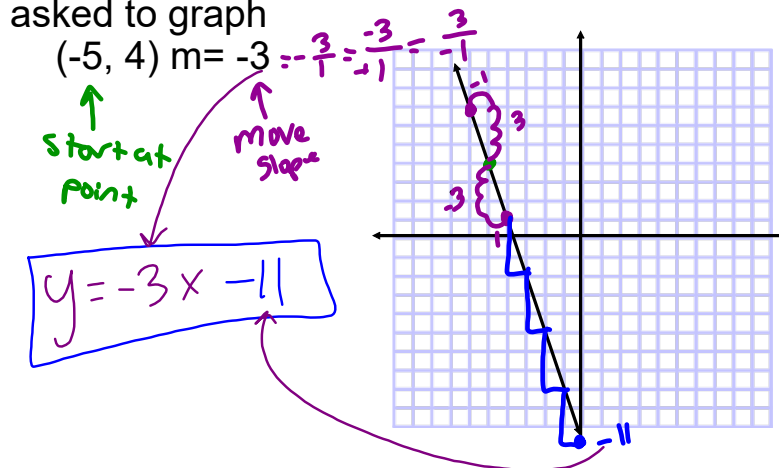
... when given the x and y intercepts

$(2,0)$ $y = (0,-5)$ Goal: ? ✓ ✓

x intercept= 2 ; y intercept= -5 $y = mx + b$
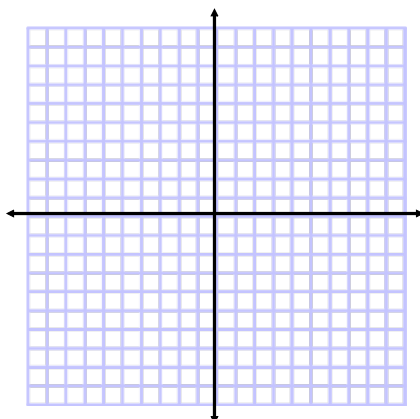
Still have to find
slope

$0 = m(2) - 5$
                    $+5$

$+5$
$5 = \frac{2m}{2}$
$\frac{5}{2}$
$m = \frac{5}{2}$

$y = \frac{5}{2}x - 5$

Homework: Writing Equations one point and slope

From the math Textbook:

pg. 179   # 3-12, 27

And Practice tonight's lesson:

Write an equation of a line showing your work, given:

1. (1,9), m = 4

2. (-4,-2), m = -2

3. (-3,0), m = 5

Write the equation for the line with the

4. x intercept: -3 and y intercept: 6

5. x intercept: 2 and y intercept: -4

6. x intercept: -4 and y intercept: -8

Homework Solutions

3. $y = 2x + 9$ 4. $y = 5$ 5. $y = -3x$

6. $y = -7x + 1$ 7. $y = 2/3x - 8$ 8. $y = -3/4x - 6$

9. $y = 1/3x + 2$ 10. $y = -1/4x + 3$

11. $y = -4/3x$ 12. $y = 2x - 2$

Write an equation of a line showing your work, given:

$(1,9)$, m $=4$ $y = 4x + 5$

$(-4,-2)$, m $= -2$ $y = -2x - 10$

$(-3,0)$, m $= 5$ $y = 5x + 15$