Unit 4 – Day 15 Homework

Key ☺

#1-3, Given the following information, write the equation in all three forms.

1. Point (0, 2) and Slope 4

y-int=b=2 ↑ m=4 ↖

$y = 4x + 2$

$-4y \quad -4x$

$-4x + y = 2$

1. Point-Slope Form: $y - 2 = 4(x - 0)$

$y - y_1 = m(x - x_1)$

Slope-Intercept Form: $y = 4x + 2$

$y = mx + b$

Standard Form: $-4x + y = 2$

$Ax + By = C$

2. Goes through points (-2, 5) and (-4, -5)

$m = \frac{-5-5}{-4-2} = \frac{-10}{-2} = 5$

$m = 5$

Find b for Slope-Int. Form

$y = 5x + b$

$5 = 5(-2) + b$

$5 = -10 + b$

$15 = b$

2. Point-Slope Form: $y - 5 = 5(x + 2)$ or $y + 5 = 5(x + 4)$

$y - y_1 = m(x - x_1)$

Slope-Intercept Form: $y = 5x + 15$

$y = mx + b$

Standard Form: $-5x + y = 15$

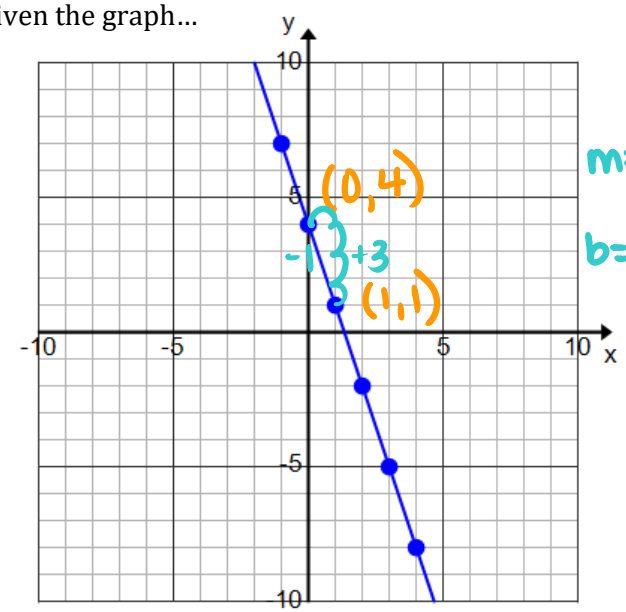
$Ax + By = C$

$y = 5x + 15$

$-5x \quad -5x$

$-5x + y = 15$

3. Given the graph…



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

$b = 4$

3. Point-Slope Form: $y - 4 = -3(x - 0)$ or $y - 1 = -3(x - 1)$

$y - y_1 = m(x - x_1)$

Slope-Intercept Form: $y = -3x + 4$

$y = mx + b$

Standard Form: $3x + y = 4$

$Ax + By = C$

$y = -3x + 4$

$+3x \quad +3x$

$3x + y = 4$

Don't forget… you are awesome!

4. Convert the following equations to Standard Form:

a) $y - 6 = \frac{1}{2}(x + 4)$

$y - 6 = \frac{1}{2}x + 2$

$2 \cdot [y] = [\frac{1}{2}x + 8] \cdot 2$

$2y = x + 16$

$-x + 2y = 16$

b) $y = -4x + 10$

$+4x \quad +4x$

$4x + y = 10$

5. Write two equations that are equivalent to the following equation:

$10x + 5y = 15$ *Answers vary*

① Divide by 5

$2x + y = 3$

② multiply by 2

$20x + 10y = 30$

Applications: Standard Form

6. Miss Palumbo is tracking the food orders for her wedding reception. There are two options: Salmon and Steak. The salmon costs $9.50 per person and the steak costs $12.00 per person. The total cost came to $1220.

a) Define your variables:

x = salmon

y = steak

b) Write your equation in STANDARD FORM.

$9.50x + 12y = 1220$

c) If 51 guests ordered steak, how many guests ordered the salmon?

$y = 51$

Find x

$9.50x + 12y = 1220$

$9.50x + 12(51) = 1220$

$9.50x + 612 = 1220$

$\frac{9.50x}{9.50} = \frac{608}{9.50}$

$x = 64$

64 guests ordered salmon

Don't forget... you are awesome!