Bellwork Tuesday, June 10, 2014

1. Write the equation of the line that passes through this pair of points in both Slope-Intercept Form and Point-Slope Form.

Points: (8, -1) and (-4, 17)

$m = \frac{17 - -1}{-4 - 8} = \frac{18}{-12} = -\frac{3}{2}$

Slope-Intercept Form:

$y = mx + b$

$y = -\frac{3}{2}x + 11$

Point-Slope Form:

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

use $(8, -1)$

$y + 1 = -\frac{3}{2}(x - 8)$

use $(-4, 17)$

$y - 17 = -\frac{3}{2}(x + 4)$

2. Use this line: $y = -6x + 1$

a. Write the equation of the line that is parallel to this line and passes through the point (-5,2)

$y - 2 = -6(x + 5)$

b. Write the equation of the line that is perpendicular to this line and passes through the point (24, -9)

$y + 9 = \frac{1}{6}(x - 24)$

3. Solve this system of equations using substitution.

$y = -5x + 8$

$3x - 2y = 23$

$3x - 2(\quad) = 23$

$3x - 2(-5x + 8) = 23$

$3x + 10x - 16 = 23$

$13x - 16 = 23$

$13x = 39$

$x = 3$

Sol: $(3, -7)$

$-5(3) + 8$

$-15 + 8$

-7

4. Solve this system of equations using Elimination.

$3(4x - 6y = -38)$

$4(3x + 5y = 19)$

$12x - 18y = -114$

$-(12x + 20y = 76)$

$-38y = -190$

$y = 5 \rightarrow 3x + 5(5) = 19 \rightarrow x = -2$

Sol(-2,5)

5. Is this relation a function?

(4, -7) (-1,8) (5,6) (13, 8) Yes

Give another point that would make this relation NOT a function.

(4 , 3)

6. Simplify. Leave no exponents that are zero or negative.

$$\frac{(2m^4n^{-2}p)^3}{(5m^{-5}n^{-4}p^6)^{-2}}$$