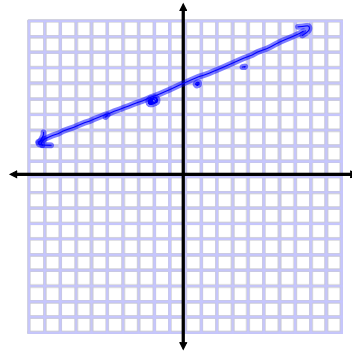PreCalculus - Warm Up - 8/22/17

Graph the following:

1. $y - 5 = \dfrac{1}{3}(x + 2)$

   y_1 $x - x_1$

   $m = \frac{1}{3}$ $(-2, 5)$

2. $2x + 4y = 6$

3. Write the equation of the line parallel to
   $y = \boxed{2}x - 3$ that goes through $(1, -2)$

   Same slope

   $// m = 2$ through $(1, -2)$
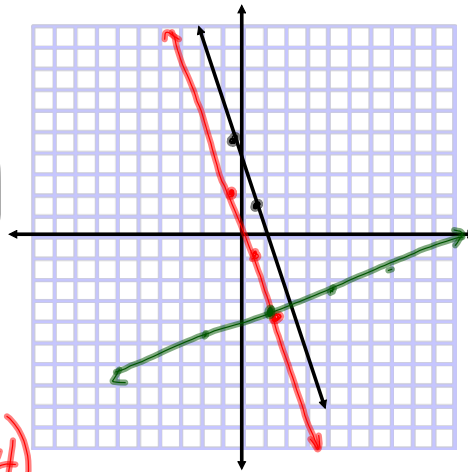
   $\boxed{y + \boxed{2} = \boxed{2}\left(x - \boxed{1}\right)}$

$6x + 2y = 9$

Slope?

$\dfrac{2y}{2} = \dfrac{-6x}{2} + \dfrac{9}{2}$

$y = -3x + 4.5$

a) parallel line
   through $(2, -4)$

   $// m = -3$ $y + 4 = -3(x - 2)$

b) perpendicular line through $(2, -4)$

   $\perp m = \frac{1}{3}$ $y + 4 = \frac{1}{3}(x - 2)$

Given the two points (-3, -5) and (5, -1), work with your partner to find the following:

$m = \frac{1}{2}$ $// m = \frac{1}{2}$

1. the slope, a parallel slope, and a perpendicular slope

$\perp m = -2$

2. the equation of the line through the two points

$y + 5 = \frac{1}{2}(x + 3)$
$y + 1 = \frac{1}{2}(x - 5)$

3. the equation of a perpendicular line through (5, -1)

$y + 1 = -2(x - 5)$

Formulas? What are they again??

A school district purchases a high-volume printer, copier, and scanner for $25,000. After 10 years, the equipment will have to be replaced. Its value at that time is expected to be $2000.

If the school wanted to sell the equipment after 8 years, how much could they sell it for?

$\dfrac{25000 - 2000}{10} = \boxed{2300}$

$2300 \times 8 = 18{,}400$

$\boxed{y = -2300x + 25000}$

a. Write a linear equation giving the value V of the equipment during the 10 years it will be used.

b. Use a graphing utility to graph the linear equipment, and use the value or trace feature to complete the table.

t	1	2	3	4	5	6	7	8	9	10
V										

c. Verify your answers in part (b) algebraically by using the equation you found in part (a).