Day 9 Quiz Review!
No Calculator (except for #7)

Key

1. Write the equation of the line…

   a. With slope of 3 and a y-intercept of 7 in standard form.
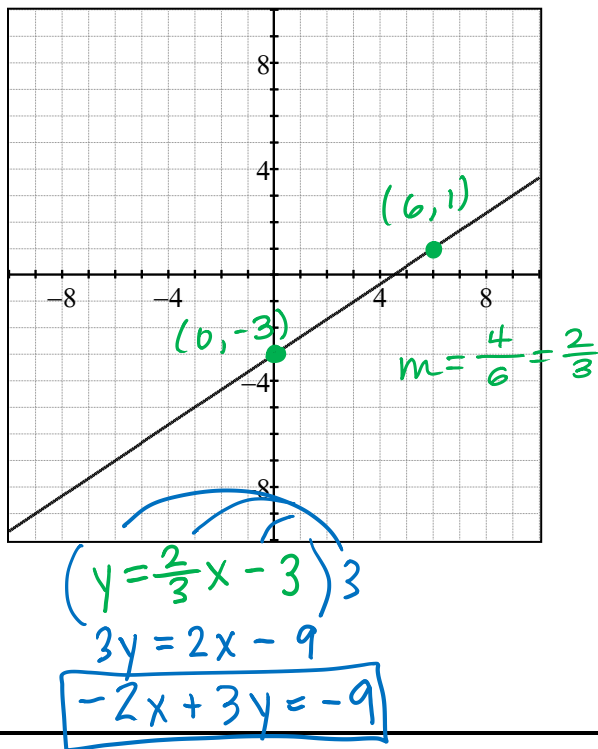
   $$y = 3x + 7$$
   $$\boxed{-3x + y = 7}$$

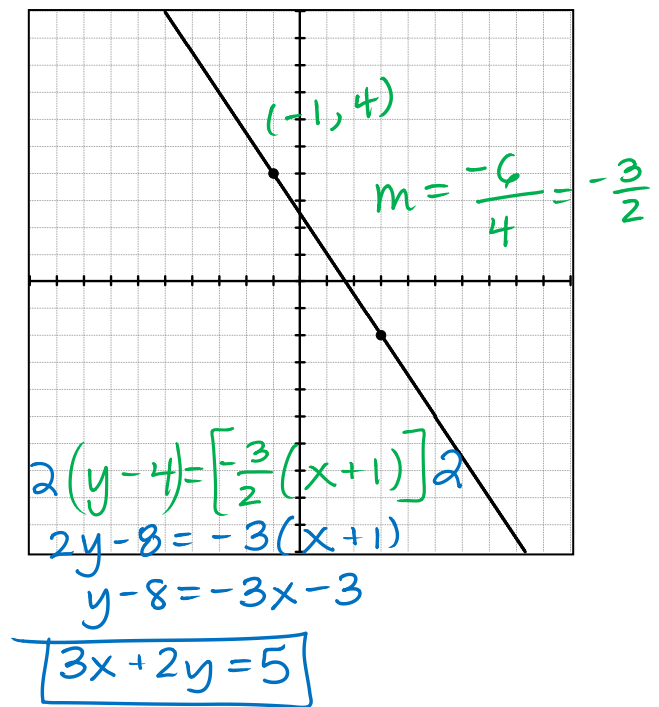   b. That passes through the points in <u>standard form</u> $(4,5)$ and $(-5,-1)$.

   $$m = \frac{-1-5}{-5-4} = \frac{-6}{-9}$$
   $$m = \frac{2}{3}$$

   $$3\left[(y-5) = \frac{2}{3}(x-4)\right]3$$
   $$3y - 15 = 2(x-4)$$
   $$3y - 15 = 2x - 8$$
   $$\boxed{-2x + 3y = 7}$$

2. Write an equation of the line graphed below in:

   a. <u>Standard Form</u>:

   $(6,1)$

   $(0,-3)$

   $$m = \frac{4}{6} = \frac{2}{3}$$

   $$\left(y = \frac{2}{3}x - 3\right)3$$
   $$3y = 2x - 9$$
   $$\boxed{-2x + 3y = -9}$$

   b. <u>Standard Form</u>:

   $(-1,4)$

   $$m = \frac{-6}{4} = -\frac{3}{2}$$

   $$2\left[(y-4) = \left[-\frac{3}{2}(x+1)\right]\right]2$$
   $$2y - 8 = -3(x+1)$$
   $$y - 8 = -3x - 3$$
   $$\boxed{3x + 2y = 5}$$

3. Write the equation of the line that passes through the points in <u>Standard Form</u> $(0,5)$ and $(-5,2)$.

   $$y - 5 = \frac{3}{5}(x-0)$$
   $$\left(y - 5 = \frac{3}{5}x\right)\cdot 5$$
   $$5y - 25 = 3x$$
   $$\boxed{-3x + 5y = -25}$$

   $$m = \frac{2-5}{-5-0} = \frac{-3}{-5}$$
   $$m = \frac{3}{5}$$

4. Write the equation of the line that has x-intercept of -3 and y-intercept of 5 in <u>slope-intercept form</u>.

$(-3, 0)$ $(0, 5)$

$m = \dfrac{5-0}{0+3} = \dfrac{5}{3}$

$y = \dfrac{5}{3}x + 5$ b!

5. Write an equation of the line that passes through the given point and is <u>parallel</u> to the given line in <u>slope-intercept form</u>.

a. $(-4, 1)$, $y = \dfrac{5}{4}x - 1$

$y - 1 = \dfrac{5}{4}(x+4)$

$y - 1 = \dfrac{5}{4}x + 5$

$y = \dfrac{5}{4}x + 6$

b. $(2, 9)$, $2x - y = 8$

$-y = -2x + 8$

$y = 2x - 8$

$y - 9 = 2(x-2)$

$y - 9 = 2x - 4$

$y = 2x + 5$

6. Write an equation of the line that passes through the given point and is <u>perpendicular</u> to the given line in <u>slope-intercept form</u>.

a. $(-6, 7)$, $y = \dfrac{1}{4}x - 1$ $m = -4$

$y - 7 = -4(x+6)$

$y - 7 = -4x - 24$

$y = -4x - 17$

b. $(3, -6)$, $4x + y = 3$ $m = \dfrac{1}{4}$

$y = -4x + 3$

$y + 6 = \dfrac{1}{4}(x-3)$

$y + 6 = \dfrac{1}{4}x - \dfrac{3}{4}$

$y = \dfrac{1}{4}x - 6\,^3/_4$

7. Scott ordered a bouquet of Phillip's flowers for his mom's birthday. He upped his game this year and ordered a dozen roses and five Gerber daisies to complete this generous bouquet.

a. If the total bill was $25.45 (without tax), write an equation to represent much each kind of flower costs. Which form makes the most sense? *Define your variables*.

$x = $ price of roses
$y = $ price of daisies

$12x + 5y = 25.45$

b. If Gerber daisies cost $1.25, how much was each rose?

$12x + 5(1.25) = 25.45$

$12x = 19.2$

$x = \$1.60$