Solving Linear Equations Practice
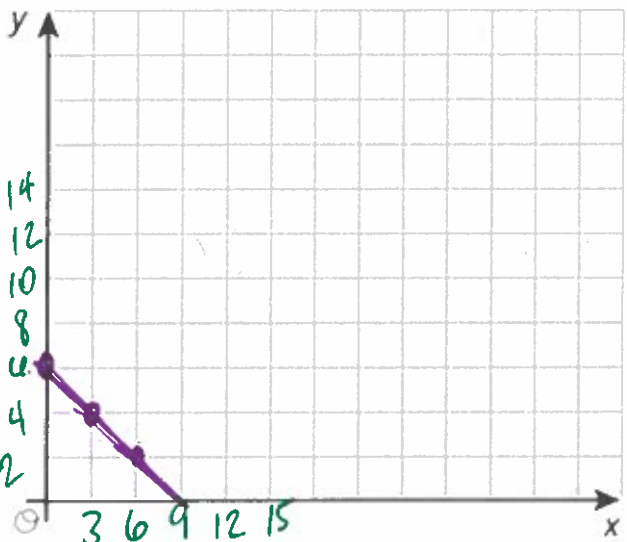
6. A store sells t-shirts for $4 and shorts for $6. You have $36 to spend

a. Complete the table showing different ways you can spend your $36.

t-shirts (x)		shorts(y)		
0		6		= $36
3	$12	4	$24	= $36
6	$24	2	$12	= $36

Shorts
14
12
10
8
6
4
2

3 6 9 12 15

Shirts

$$y = -\tfrac{2}{3}x + 6$$

b. Graph your points on the following graph. Be sure to label your x-axis and y-axis appropriately.

c. Create an equation to match this situation. (words)

$$4x + 6y = 36$$

7. Amber is ordering doughnuts for her class. The doughnuts cost $2.50 each and the bakery adds a $12 delivery fee to all orders.

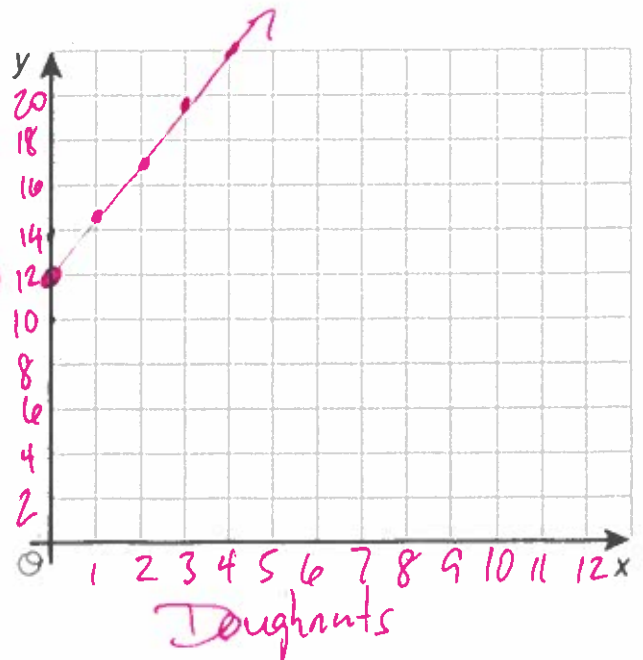a. Write an equation to match this situation.

$$y = 2.50x + 12$$

$$2.50 = \tfrac{5}{2}$$

b. How much will Amber spend if she has 30 people in her class including herself?

$$2.50(30) + 12 = \$87$$

c. Graph this situation. Be sure to label and scale the graph.

y
20
18
16
14
12
10
8
6
4
2

1 2 3 4 5 6 7 8 9 10 11 12 x

Doughnuts

Solving Linear Equations Practice

1. Select all the ordered pairs (x, y) that are solutions to the linear equation
   3x + 2y = 18.

   $3(0) + 2(6) = 12$

   a. (0, 6) →
   b. (2, 6) ✓
   c. (3, 3)
   d. (4, 3) ✓
   e. (6, 0) ✓

2. Fill in the blank with an ordered pair that will make x + y = 5 true.

   (**2** , 3)

   $2 + 3 = 5$

3. Fill in the blank with an ordered pair that will make 3x - 2y = -8 true.

   (2, **7**)
   ✗

   $y = 7$
   $\dfrac{-2y}{2} \neq \dfrac{-14}{-2}$

   $3(2) - 2y = -8$
   $6 - 2y \neq -8$
   $\dfrac{-6}{} \quad \dfrac{-6}{}$

4. Concert tickets cost $15 for general admission. If you show your student ID, the concert tickets only cost $9. The concert sold a total of $4500 worth of tickets for the show.
   a. Write an equation to represent this situation.

   $15x + 9y = 4500$

   b. If there were 168 general admission tickets sold, how many student tickets did they sell to earn the $4500?

   $15 \cdot 168 = \$2520$
   $4500 - 2520 = \$1980$
   $1980 \div 9 = \boxed{220}$

5. Your digital camera has a 512 megabyte memory card. You take pictures at two resolutions, a low resolution requiring 4 megabytes of memory per photo and a high resolution requiring 8 megabytes of memory per photo.
   a. Write an equation to represent this situation.

   $4x + 8y = 512$

   b. You used up all the space on your memory card. You have 108 low resolution pictures on your memory card. How many of the pictures are ~~low~~ resolution?

   $108 \cdot 4 = 432$
   high
   $512 - 432 = 80 \div 8 = \boxed{10 \text{ high resolution}}$