Algebra Practice Problems

1. Use proper order of operations to solve the following expressions:

   a. $\left((12 \div 3) + 7\right) \times 10 - 8$

   b. $(5 - 3)^2 + 10 + (8 - 16 \div 2) \times 3 - 4$

   c. $\left(\frac{2}{5}(1 + 9)\right)^{\frac{8}{4}}$

2. Simplify the following expressions:

   a. $3a + 10b - 4 + 6b - a - 1$

   b. $14 - 7x + 9(x + y)$

3. Fill in the blanks in the table below:

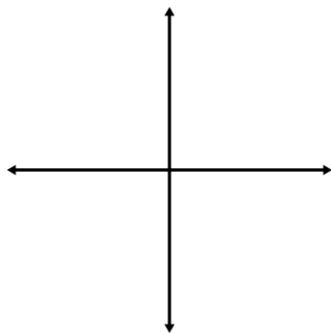| Mixed or Reduced Fraction	Improper or Unreduced Fraction	Decimal	Percent
$\frac{1}{3}$	$\frac{33}{100}$	$0.3\overline{3}$	$33.3\overline{3}\%$
$2\frac{1}{3}$			
			95%
	$\frac{48}{80}$		
	$\frac{121}{11}$		

**Bonus Question: Add all of the fractions in the Improper/Unreduced column together.

4. Solve the following word problems :

   a. Marie's piggy bank is 1/3 full. She did all her chores this weekend, and earned $5.00 in pennies (for some reason), and now her piggy bank 5/8 full! How many pennies can fit in her piggy bank?

   b. Liam has completed 7/8 of his homework! Hooray! It took him 3 hours and 45 minutes to get this far. How much longer will Liam have to work to finish his assignment?

   c. Alex has to walk to school every day. It takes her 20 minutes to go 2/5 of the way. If she is already 9/10 of the way to school, how much more time does she have to walk?

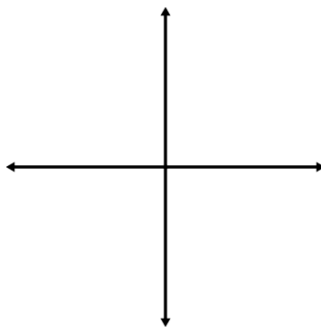5. Create a table of values for the following equations and plot them on a graph:
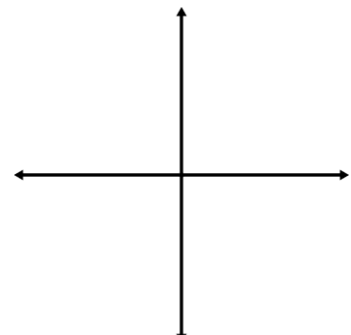   a. $y = -x + 5$
   b. $y = 2x - 1$
   c. $y = \frac{1}{4}x + 2$

x	y

x	y

x	y

6. State the x and y intercepts for each of the equations:
   a. $y = -x + 5$

   b. $y = 2x - 1$

   c. $y = \frac{1}{4}x + 2$