

Define each of the following terms. Use your notes if you need help.

- System of Linear Equations - _____

- Break-Even Point - when _____ = _____

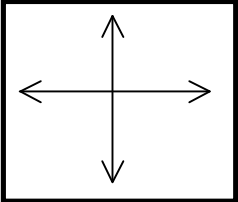
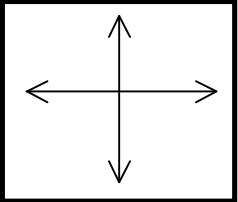
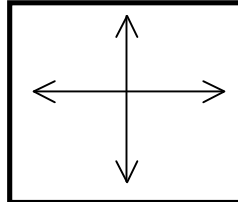
List three methods of solving systems of linear equations and briefly describe how you use each one.

- _____ is a method of solving a system of equations where _____

- _____ is a method of solving a system of equations where _____

- _____ is a method of solving a system of equations where _____

6. Sketch the graph of a system of linear equations that represents each type of solution. Then, choose the appropriate description of the system of equations.

a. One Solution	b. Infinite Solutions	c. No Solution
		
<p>Circle one: Slope: same or different y-intercept: same or different Soln: consistent or inconsistent</p>	<p>Circle one: Slope: same or different y-intercept: same or different Soln: consistent or inconsistent</p>	<p>Circle one: Slope: same or different y-intercept: same or different Soln: consistent or inconsistent</p>

7. Write each equation in slope-intercept form ($y = mx + b$).

a. $4x - 6y = 12$

b. $x = 10 - 5y$

c. $3x - 7y - 19 = 0$

8. Determine the best method for solving each system of linear equations.

a. $-2x + 3y = 8$
 $4x - 3y = 12$

b. $x = 3y - 6$
 $3x + 5y = 9$

c. $y = 5x + 8$
 $y = -2x + 6$

9. Clear the fractions! Then, solve each system of linear equations by any method.

a. $\frac{3}{4}x + \frac{1}{2}y = \frac{1}{4}$
 $\frac{2}{3}x + \frac{1}{6}y = \frac{1}{2}$

b. $3y - x = -2$
 $y - \frac{1}{3}x = 2$

10. Write a system of linear equations to represent the problem situation. Then, graph the system to estimate the break-even point. Explain what the break-even point represents.

Claire sells jewelry at a local market. Each piece of jewelry costs \$10.00 to make, and she has to pay \$40 for a booth at the market. She sells each piece of jewelry for \$20.

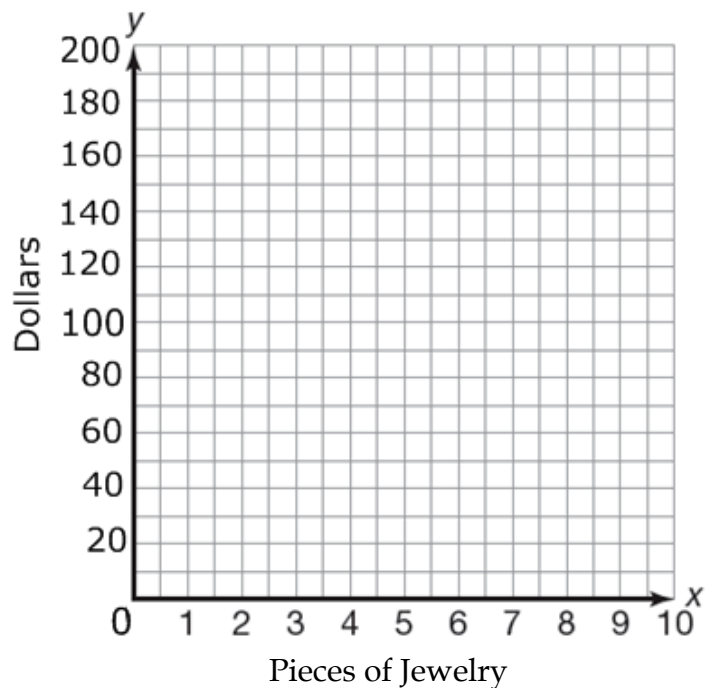
Income equation: $y =$ _____

Cost/Expense equation: $y =$ _____

Break-even point: (____, ____)

Meaning:

Claire will break-even when she sells _____
 pieces of jewelry. Her _____
 and her _____ will both be
 \$_____.



Write a system of linear equations to represent each problem situation. Then, solve the system using any method. Write your solution as an ordered pair.

11. Ticketmaster offers two ticket plans for sporting events. One plan costs \$120 plus \$25 per ticket. The other plan costs \$40 per ticket. How many tickets must Marc buy so the first plan is the same price as the second plan?

Equation 1: _____

Equation 2: _____

Solution: (____, ____)

12. Jeremy and Tamira are making chicken noodle soup. Jeremy opens 4 large cans and 6 small cans of soup and pours them into a soup pot. His pot contains 114 ounces of soup. Tamira opens 3 large cans and 5 small cans of soup. Her pot contains 91 ounces of soup. How many ounces of soup does each large can and each small can contain?

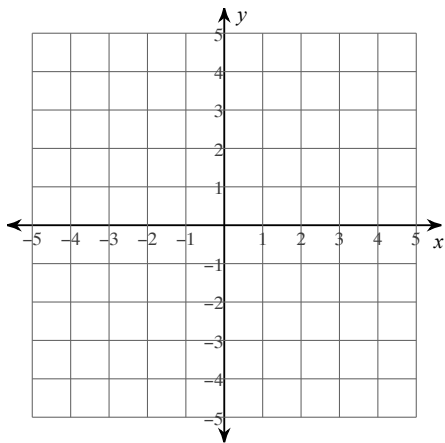
Equation 1: _____

Equation 2: _____

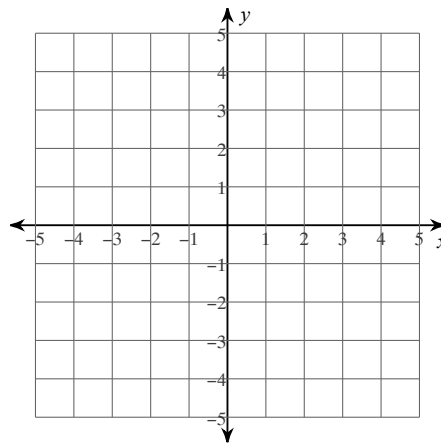
Solution: (____, ____)

Solve each system of equations by graphing. If there is one solution, write as an ordered pair.

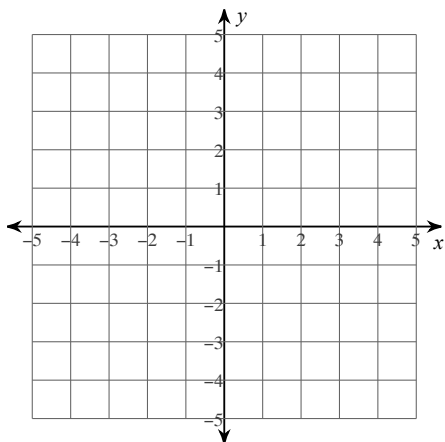
13) $y = 2x - 1$
 $y = -x + 2$



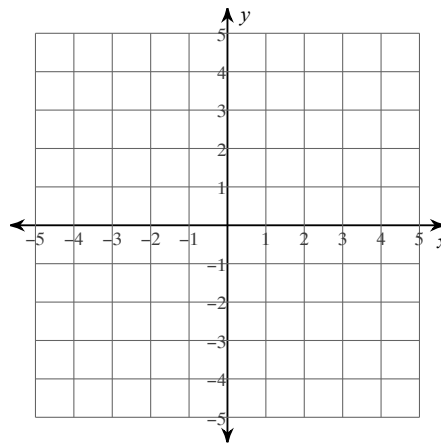
14) $y = 3x + 4$
 $y = 3x - 1$



15) $y = \frac{1}{3}x + 3$
 $x = -3$



16) $-x + 2 = -y$
 $-y = 2 - x$



Solve each system of equations using substitution. If there is one solution, write as an ordered pair.

17) $y = -5x - 20$
 $y = 3x + 4$

18) $7x - 3y = 13$
 $y = 5$

$$\begin{aligned} 19) \quad & -x + 2y = 13 \\ & y = -3x - 11 \end{aligned}$$

$$\begin{aligned} 20) \quad & y = -7x - 6 \\ & -14x - 2y = -7 \end{aligned}$$

Solve each system using linear combinations. If there is one solution, write as an ordered pair.

$$\begin{aligned} 21) \quad & -4x + 3y = 7 \\ & 10x - 3y = -13 \end{aligned}$$

$$\begin{aligned} 22) \quad & 14x - 2y = 22 \\ & 7x - y = 11 \end{aligned}$$

$$\begin{aligned} 23) \quad & 2x - 2y = -6 \\ & -6x + 6y = 12 \end{aligned}$$

$$\begin{aligned} 24) \quad & -4x - 5y = 8 \\ & 3x - 4y = -6 \end{aligned}$$