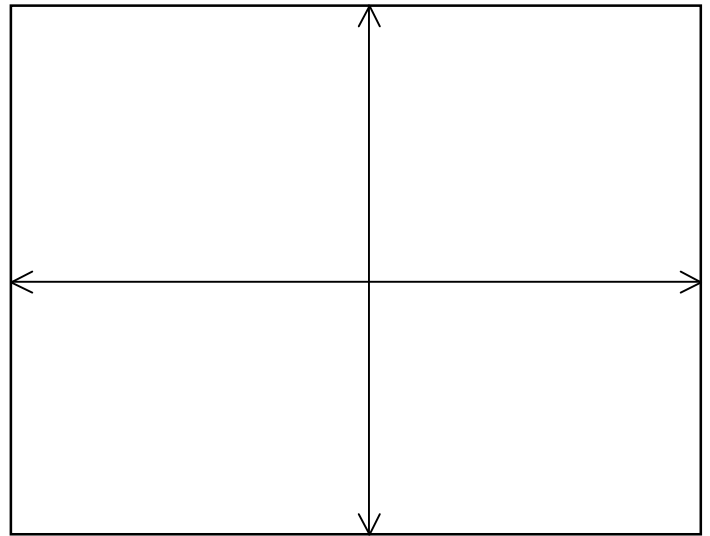


1. Determine whether  $(5, -2)$  is a solution of  $\begin{cases} 4x - 3y = 26 \\ x = 15 - 5y \end{cases}$ .

ANS: \_\_\_\_\_

Solve the following systems by **graphing**. State the solution set.

2.  $\begin{cases} x + 2y = 4 \\ -3x + 4y = 28 \end{cases}$

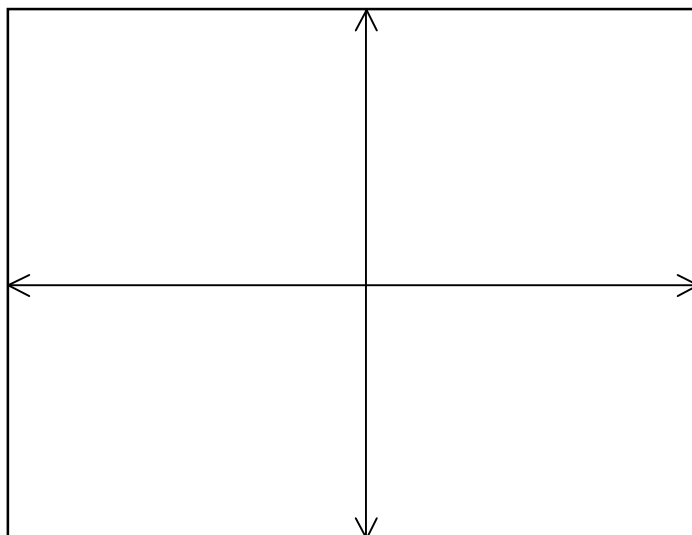


ANS: \_\_\_\_\_

3. 
$$\begin{cases} 6x + 2y = 7 \\ y = 2 - 3x \end{cases}$$

ANS: \_\_\_\_\_

4. 
$$\begin{cases} 4x = 36 + 8y \\ 3x - 6y = 27 \end{cases}$$



ANS: \_\_\_\_\_

Solve the following systems by *substitution method*. State the solution set.

5. 
$$\begin{cases} 4x + 3y = 0 \\ 2x - y = 0 \end{cases}$$

ANS: \_\_\_\_\_

6. 
$$\begin{cases} 9x - 3y = 12 \\ 4 + y = 3x \end{cases}$$

ANS: \_\_\_\_\_

Solve the following systems by the **addition method**. State the solution set.

$$7. \quad \begin{cases} 2x - 5y = -1 \\ 2x = y + 1 \end{cases}$$

ANS: \_\_\_\_\_

$$8. \quad \begin{cases} 2x + 4y = 5 \\ 3x + 6y = 6 \end{cases}$$

ANS: \_\_\_\_\_

9. The weekly demand and supply models for a particular brand of scientific calculator for a chain of stores are given by the demand model  $N = -53p + 1600$ , and the supply model  $N = 75p + 320$ . In these models,  $p$  is the price of the calculator and  $N$  is the number of calculators sold or supplied each week to the stores.

**(a)** Find the price at which supply and demand are equal. **(b)** At this price, how many calculators of this type can be supplied and sold each week. (*Answer each question in a sentence.*)

**(a)** ANS: \_\_\_\_\_

**(b)** ANS: \_\_\_\_\_

10. Two medium eggs and three cups of ice cream contain 701 milligrams of cholesterol. One medium egg and one cup of ice cream exceed the suggested daily cholesterol intake of 300 milligrams by 25 milligrams. Determine the cholesterol content in each item. (*Define two variables, create a system of equations, solving using one of the algebraic techniques from Chapter 4, and answer in a sentence.*)

ANS: \_\_\_\_\_

11. A bank loaned out \$120,000, part of it at the rate of 8% annual mortgage interest and the rest at the rate of 18% annual credit card interest. The interest received on both loans totaled \$10,000. How much was loaned at each rate? (*Define two variables, set-up an organizational structure, create a system of equations, solving using one of the algebraic techniques from Chapter 4, and answer in a sentence.*)

ANS: \_\_\_\_\_

12. A candy company needs to mix a 30% fat content chocolate with a 12% fat content chocolate to obtain 50 pounds of a 20% fat content chocolate. How many pounds of each kind of chocolate must be used? (*Define two variables, set-up an organizational structure, create a system of equations, solving using one of the algebraic techniques from Chapter 4, and answer in a sentence.*)

ANS: \_\_\_\_\_

13. A motorboat traveled 36 miles downstream, with the current, in 1.5 hours. The return trip upstream, against the current, covered the same distance, but took 2 hours. Find the boat's rate in still water and the rate of the current. *(Draw a diagram of the situation, define two variables, set-up an organizational structure, create a system of equations, solving using one of the algebraic techniques from Chapter 4, and answer in a sentence.)*

ANS: \_\_\_\_\_