

Review Unit 4

Solve each system by substitution.

$$\begin{aligned} 1) \quad & -6x + 2y = -4 \\ & -3x + y = -2 \end{aligned}$$

$$\begin{aligned} 2) \quad & x = 12.1 - 5y \\ & 2x - 6y = -11 \end{aligned}$$

Solve each system by elimination.

$$\begin{aligned} 3) \quad & 2x + 4y = 23 \\ & 10x + 5y = 76 \end{aligned}$$

$$\begin{aligned} 4) \quad & 2x + 9y = -12 \\ & 5x - 10y = -30 \end{aligned}$$

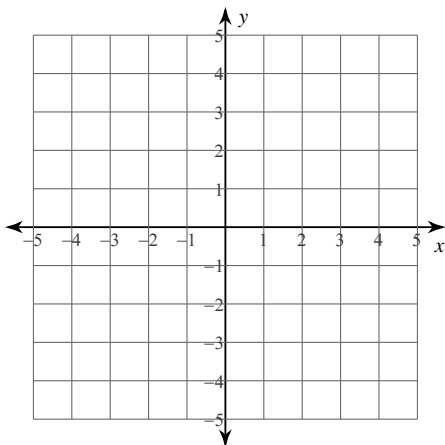
Solve using any method.

$$\begin{aligned} 5) \quad & x = -y - 1 \\ & -x - 16 = -4y \end{aligned}$$

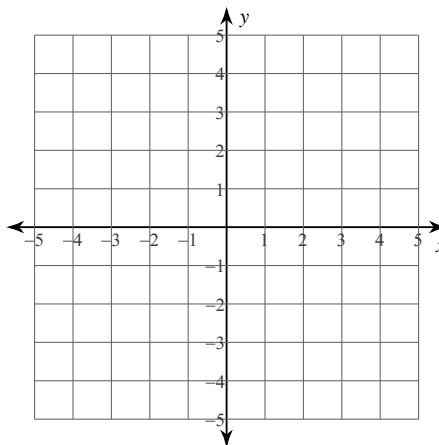
$$\begin{aligned} 6) \quad & -2x + 6y = 10 \\ & -3x + 9y = 9 \end{aligned}$$

Solve each system by graphing.

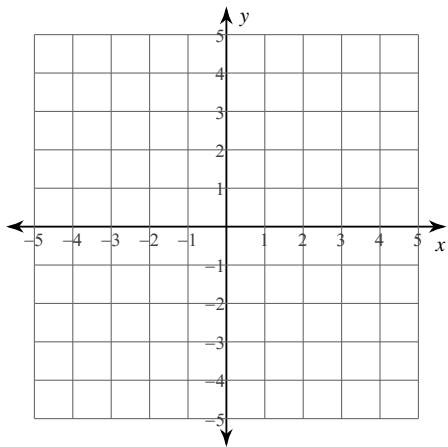
$$\begin{aligned} 7) \quad & 2x + 3y = -12 \\ & x - y = -1 \end{aligned}$$



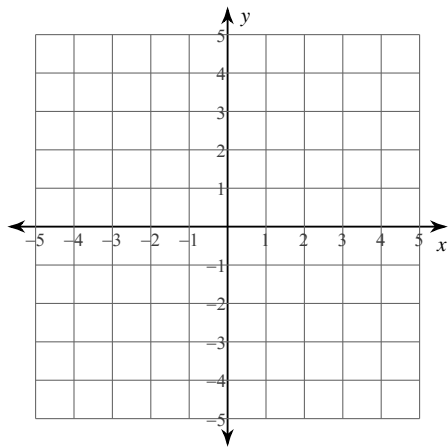
$$\begin{aligned} 8) \quad & 5x - y = 4 \\ & x + y = 2 \end{aligned}$$



$$9) \begin{aligned} 5x + 4y &= 8 \\ 5x + 4y &= -8 \end{aligned}$$

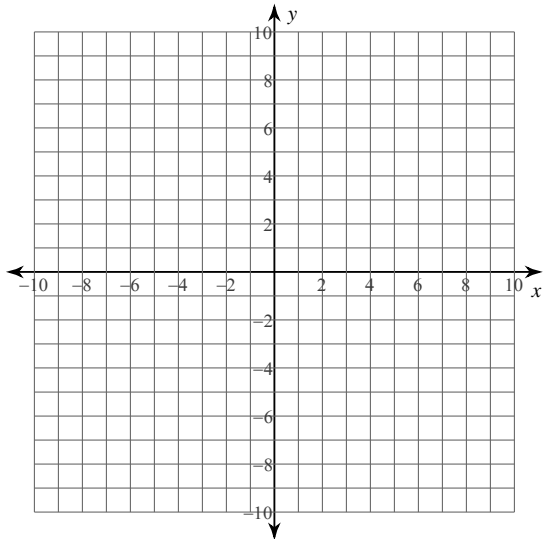


$$10) \begin{aligned} 5x - 3y &= 3 \\ x - 3y &= -9 \end{aligned}$$

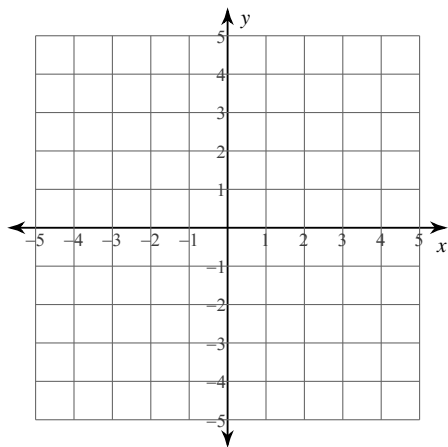


Sketch the solution to each system of inequalities.

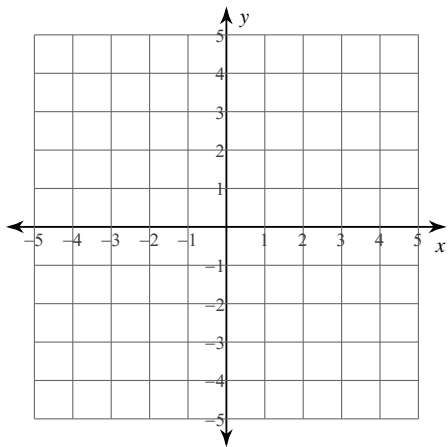
$$11) \begin{aligned} 9x - y &> -8 \\ y &\leq -1 \end{aligned}$$



$$12) \begin{aligned} y &< \frac{3}{2}x - 1 \\ x &\geq 2 \end{aligned}$$



$$13) \begin{aligned} y &> -\frac{1}{2}x - 3 \\ y &< -\frac{1}{2}x + 3 \end{aligned}$$



Unit 4 Application

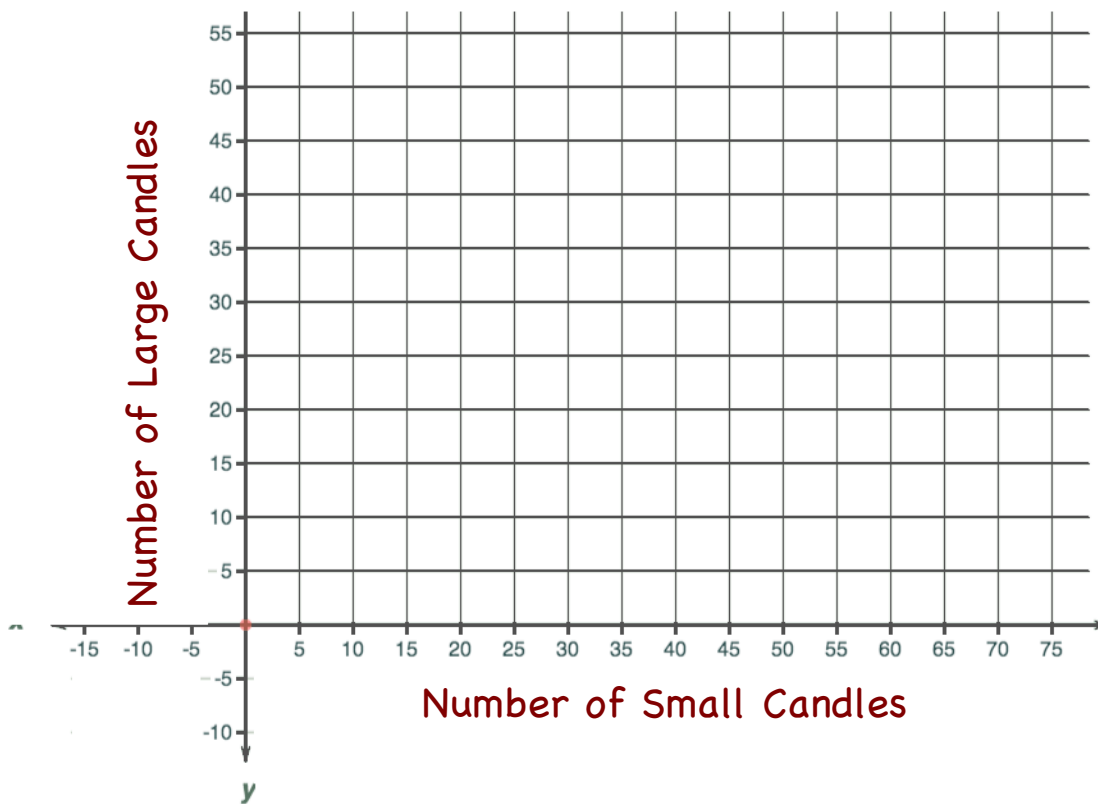
1. Brust loves creating sculptures with candles. In fact, he is going to the store to buy new candles for his new sculpture "Candelbrot Set". Small candles (x) cost \$4 and large candles (y) cost \$5. He needs to buy at least 20 candles, and he cannot spend more than \$200.

a. Write an inequality for each of the following components:

Brust wants to buy at least 20 candles: _____

Brust cannot spend more than \$200 _____

b. Graph your system of inequalities. Use a ruler.



c. Name one point that is a solution to your system of inequalities _____

d. Name one point that is NOT a solution to your system of inequalities _____

2. Bean is selling tickets to his new musical "*Fear Factor: the life of a young boy who factors trinomials while feeding alligators.*" On the first day of ticket sales Bean sold 3 senior citizen tickets and 15 child tickets for a total of \$171. He then took in \$111.50 on the second day by selling 3 senior citizen tickets and 8 child tickets. Find the price of a senior citizen ticket and the price of a child ticket.