

Show all steps on your own sheet of paper.

Solving Systems by Elimination

Follow the steps to solve each system by elimination.

1.
$$\begin{cases} 2x - 3y = 14 \\ 2x + y = -10 \end{cases}$$

Subtract the second equation:

$$\begin{array}{r} 2x - 3y = 14 \\ - (2x + y = -10) \\ \hline \end{array}$$

Solve the resulting equation:

$y =$ _____

Use your answer to find the value of x :

$x =$ _____

Solution: (_____, _____)

2.
$$\begin{cases} 3x + y = 17 \\ 4x + 2y = 20 \end{cases}$$

Multiply the first equation by -2 . Then, add the equations:

$$\begin{array}{r} ___ x - ___ y = ______ \\ + 4x + 2y = 20 \\ \hline \end{array}$$

Solve the resulting equation:

$x =$ _____

Use your answer to find the value of y :

$y =$ _____

Solution: (_____, _____)

Solve each system by elimination. Check your answer.

3.
$$\begin{cases} x + 3y = -7 \\ -x + 2y = -8 \end{cases}$$

4.
$$\begin{cases} 3x + y = -26 \\ 2x - y = -19 \end{cases}$$

5.
$$\begin{cases} x + 3y = -14 \\ 2x - 4y = 32 \end{cases}$$

6.
$$\begin{cases} 4x - y = -5 \\ -2x + 3y = 10 \end{cases}$$

7.
$$\begin{cases} y - 3x = 11 \\ 2y - x = 2 \end{cases}$$

8.
$$\begin{cases} -10x + y = 0 \\ 5x + 3y = -7 \end{cases}$$

Solve.

9. Brianna's family spent \$134 on 2 adult tickets and 3 youth tickets at an amusement park. Max's family spent \$146 on 3 adult tickets and 2 youth tickets. What is the price of a youth ticket? _____
10. Carl bought 19 apples of 2 different varieties to make a pie. The total cost of the apples was \$5.10. Granny Smith apples cost \$0.25 each and Gala apples cost \$0.30 each. How many of each type of apple did Carl buy? _____