

OBJECTIVE: To solve a system of equations using the linear combination method

Solve each system of equations by using the linear combination method. Write the solution as an ordered pair!

1. 
$$\begin{aligned} -5x + 7y &= 11 \\ -5x + 3y &= 19 \end{aligned}$$
 **Solution:** \_\_\_\_\_

2. 
$$\begin{aligned} 2x - 5y &= 10 \\ -3x + 4y &= -15 \end{aligned}$$
 **Solution:** \_\_\_\_\_

3. 
$$\begin{aligned} x - 4y &= -2 \\ -3x + 8y &= -1 \end{aligned}$$
 **Solution:** \_\_\_\_\_

4. 
$$\begin{aligned} 6x + 3y &= 12 \\ 2x &= 8 - y \end{aligned}$$
 **Solution:** \_\_\_\_\_

5. 
$$\begin{aligned} -4x &= 6y + 2 \\ 6x + 9y + 3 &= 0 \end{aligned}$$
 **Solution:** \_\_\_\_\_

6. 
$$\begin{aligned} 6x - 8y &= 50 \\ 4x + 6y &= 22 \end{aligned}$$
 **Solution:** \_\_\_\_\_

7. Selling frozen yogurt at a fair, you make \$565 and use 250 cones. A single-scoop cone costs \$2 and a double-scoop cone costs \$2.50. Let  $x$  represent the number of single-scoop cones you sell, and let  $y$  represent the number of double-scoop cones you sell.

A) Write an equation to represent the total number of cones you sell.

B) Write an equation to represent the total amount of money you make selling cones.

C) Use linear combination to solve your system of equations.

D) How many double-scoop cones did you sell?

Jumbled Answers

$(7, -1)$

No Solution

$(-5, -2)$

Infinitely Many Solutions

$(5, 0)$

$\left(5, \frac{7}{4}\right)$

$(120, 130)$