NAME

Module 10 Solving Systems of Linear Equations and Inequalities
Lesson 2 Solving Systems of Linear Equations by Elimination

Solve each system of equations using the elimination method.

1. $\begin{cases} x + y = 15 \\ 3x - y = 1 \end{cases}$

(4, 11)

2. $\begin{cases} x + y = 0 \\ x - y = 18 \end{cases}$

(9, –9)

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

$\left(6, -\frac{1}{2}\right)$

4. $\begin{cases} 5x - 4y = 13 \\ 3x + 4y = 19 \end{cases}$

$\left(4, 1\frac{3}{4}\right)$

5. $\begin{cases} 8x + 2y = -17 \\ 16x + 4y = 1 \end{cases}$

No solution

6. $\begin{cases} 11x - y = 14 \\ 2x + y = -1 \end{cases}$

(1, –3)

7. $\begin{cases} 3a + 5b = 11 \\ 4a - 3b = 5 \end{cases}$

(2, 1)

8. $\begin{cases} 5x = 7y - 8 \\ 10x = 14y + 16 \end{cases}$

An infinite number of solutions

9. $\begin{cases} 12x - 8y = -3 \\ 10x - 4y = 2 \end{cases}$

$\left(\frac{7}{8}, \frac{27}{16}\right)$

Write a system of equations and solve by using the elimination method.

10. The sum of two numbers is 53. The first number is five more than twice the second. Find the two numbers.

37 and 16

11. The sum of two consecutive odd integers is 32. The first minus the second is negative two. Find the integers.

15 and 17

12. The senior class sold 173 tickets to the Christmas play. Adult tickets cost $6.25, and children's tickets cost $3.75. If the senior class earned $858.75, how many of each kind of ticket was sold?

84 adult tickets; 89 children's tickets

13. Tom worked a total of 23 hours last week, part at the local convenience store and the rest at the grocery store. He gets paid $5.25 per hour at the grocery store and $6.45 per hour at the convenience store. If his total pay for the week was $129.15, how many hours did he work at each place?

16 hours at the grocery store; 7 hours at the convenience store

14. Jon is three years older than his brother Jim. Five years from now, Jon will be eleven more than half his brothers' age. How old is each now?

Jon is 14; Jim is 11

15. The perimeter of a rectangle is 30m. The length is twice the width. Find the dimensions.

5m by 10m