

EXERCISE A

Solve each system of equations using the substitution method.

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

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

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

4)
$$\begin{aligned} 3x - 2y &= -1 \\ 4x + y &= 17 \end{aligned}$$

Solve each system of equations using the elimination method.

5)
$$\begin{aligned} 2x - 3y &= 11 \\ 2x + 2y &= 6 \end{aligned}$$

6)
$$\begin{aligned} 5x + y &= 10 \\ 4x + y &= 4 \end{aligned}$$

7)
$$\begin{aligned} 2x + 4y &= 18 \\ 3x - 6y &= 3 \end{aligned}$$

8)
$$\begin{aligned} 1.25x - y &= -7 \\ 4y &= 5x + 28 \end{aligned}$$

Solve each system using whichever method seems best.

9)
$$\begin{aligned} 2x + 8y &= 52 \\ x - 5y &= -10 \end{aligned}$$

10)
$$\begin{aligned} 4y - 3x &= 4 \\ y &= \frac{1}{2}x - 3 \end{aligned}$$

11)
$$\begin{aligned} -3x + 5y &= 12 \\ 6x - 10y &= -21 \end{aligned}$$

EXERCISE B

Solve each system of equations using the substitution method.

12)
$$\begin{aligned} 2x - 3y &= 3 \\ x &= 14 - y \end{aligned}$$

13)
$$\begin{aligned} 2x + y &= 11 \\ 6x - 2y &= -2 \end{aligned}$$

14)
$$\begin{aligned} 3x + 2y &= -3 \\ x + \frac{1}{3}y &= -4 \end{aligned}$$

15)
$$\begin{aligned} 2x + 4y &= 6 \\ 7x &= 4 + 3y \end{aligned}$$

Solve each system of equations using the elimination method.

16)
$$\begin{aligned} x + y &= 7 \\ 2x + y &= 11 \end{aligned}$$

17)
$$\begin{aligned} 4x - 5y &= 17 \\ 3x + 4y &= 5 \end{aligned}$$

18)
$$\begin{aligned} 2x + 6y &= 14 \\ -\frac{7}{3} + \frac{1}{3}x &= -y \end{aligned}$$

19)
$$\begin{aligned} 6x + 3y &= 12 \\ 2x &= 8 - y \end{aligned}$$

Solve each system using whichever method seems best.

20)
$$\begin{aligned} 10x - 9y &= 15 \\ 5x - 4y &= 10 \end{aligned}$$

21)
$$\begin{aligned} 2x &= 7 + y \\ 6x - 3y &= 24 \end{aligned}$$

22)
$$\begin{aligned} 3x &= -3 + 2y \\ 3x + y &= 3 \end{aligned}$$

EXERCISE C

23) All 28 members of the IV Ski Club went on a one-day ski trip. Some members rented skis for \$16 per day, while others rented snowboards for \$19 per day. The club paid a total of \$478 for rental equipment.

- Write a system of equations to represent the number of members who rented the two types of equipment.
- Solve to determine how many members rented skis and how many rented snowboards.



24) Megan exercises every morning for 40 minutes. She does a combination of step aerobics, which burns 11 calories per minute, and stretching, which burns about 4 calories per minute. Her goal is to burn 335 calories.

- Write a system of equations to represent Megan's workout.
- How long should she do each activity to achieve her goal?

ANSWERS:

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|------------|-----------------|---------------------------------------|
| 1) (4, 8) | 9) (10, 4) | 17) (3, -1) |
| 3) (9, 7) | 11) no solution | 19) no solution |
| 5) (4, -1) | 13) (2, 7) | 21) no solution |
| 7) (5, 2) | 15) (1, 1) | 23a) $x + y = 28$ & $16x + 19y = 478$ |
| | | b) 18skis, 10snowboards |