

1.4 Practice A

In Exercises 1 and 2, solve the system using the elimination method.

1. $x - 6y + 2z = 5$

$$2x - 3y + z = 4$$

$$3x + 4y - z = -2$$

2. $x + y - z = -2$

$$2x - y + z = 8$$

$$-x + 2y + 2z = 10$$

3. Describe and correct the error in the first step of solving the system of linear equations.

$$5x + 3y - z = 15$$

$$-x + 2y + 3z = 10$$

$$3x - 4y + 3z = 8$$

\times	$\begin{array}{r} 5x + 3y - z = 15 \\ -5x + 10y + 15z = 10 \\ \hline 13y + 14z = 25 \end{array}$
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In Exercises 4 and 5, solve the system using the elimination method.

4. $x + 4y - 3z = 1$

$$3x + 12y - 9z = 8$$

$$2x + 4y - 4z = -12$$

5. $x + y - z = 2$

$$x - y - z = 2$$

$$3x + y - 3z = 6$$

6. Three bouquets of flowers are ordered at a florist. Three roses, 2 carnations, and 1 tulip cost \$14, 6 roses, 2 carnations, and 6 tulips cost \$38, and 1 rose, 12 carnations, and 1 tulip cost \$18. How much does each item cost?

In Exercises 7 and 8, solve the system of linear equations using the substitution method.

7. $y = -3$

$$2x + y = 5$$

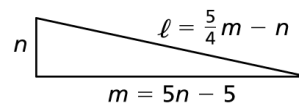
$$x - 2y + z = 6$$

8. $x - y = 5$

$$-x + 4y + 2z = 3$$

$$-x + 3y - 5z = -6$$

9. A triangle has a perimeter of 90 centimeters.
- Write and use a linear system to determine the lengths of sides ℓ , m , and n .
 - Is the triangle a right triangle? Explain.



1.4 Practice B

In Exercises 1 and 2, solve the system using the elimination method.

1. $3x - y + z = -1$

$$3x + 2y - 5z = -16$$

$$3x + 3y + 2z = 6$$

2. $4x + 3y - 5z = -9$

$$6x + 6y - 3z = 6$$

$$3x - 3y + 4z = 19$$

3. Describe and correct the error in the first step of solving the system of linear equations.

$$5x + 3y - z = 15$$

$$-x + 2y + 3z = 10$$

$$3x - 4y + 3z = 8$$

$ \begin{array}{r} \times \quad -15x - 9y - 3z = 45 \\ \quad \quad \quad 3x - 4y + 3z = 8 \\ \hline \quad \quad -12 - 13y = 53 \end{array} $

In Exercises 4 and 5, solve the system using the elimination method.

4. $x - y - z = 5$

$$4x - 4y - 4z = 15$$

$$3x - y - 4z = -2$$

5. $-x + y + z = 3$

$$x + y + 3z = 5$$

$$3y + 6z = 12$$

In Exercises 6 and 7, solve the system of linear equations using the substitution method.

6. $2x - y = 6$

$$4x - 3y - 2z = 14$$

$$-x + 2y - 3z = 12$$

7. $6x + 3y - 9z = 10$

$$-2x - y + 3z = 3$$

$$x - 2y - z = 1$$

8. Your friend claims that she has a bag of 30 coins containing nickels, dimes, and quarters. The total value of the 30 coins is \$3. There are twice as many nickels as there are dimes. Is your friend correct? Explain your reasoning.

9. Each equation in this system represents a line.

$$x - 2y - 3 = 0$$

$$2x + y + 1 = 0$$

$$3x + 4y + 5 = 0$$

a. Solve the system of linear equations using either the elimination method or the substitution method.

b. Do the lines intersect at a point? Explain.