

Lesson 3.4 Worksheet

Name: _____

Tell whether the given ordered triple is a solution of the system.

1.) $(-1, -2, 5)$

$$4x - y + 3z = 13$$

$$x + y + z = 2$$

$$x + 3y - 2z = -17$$

2.) $(1, 4, -3)$

$$2x - y + z = -7$$

$$5x + 2y - 2z = 19$$

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

solution? _____

solution? _____

Solve the system using the elimination method.

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

$$6x - 2y + 4z = -8$$

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

solution: _____

4.) $4x - y + 2z = -18$

$$-x + 2y + z = 11$$

$$3x + 3y - 4z = 44$$

solution: _____

Solve the system using the substitution method.

5.) $2x - y + z = -2$

$6x + 3y - 4z = 8$

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

solution: _____

6.) $4x + y + 5z = -40$

$-3x + 2y + 4z = 10$

$x - y - 2z = -2$

solution: _____

Solve the system using any algebraic method.

7.) $x + y + z = 6$

$x - y + z = 6$

$4x + y + 4z = 24$

solution: _____

$$\begin{aligned} 8.) \quad x + y - z &= 2 \\ 3x + 3y - 3z &= 8 \\ 2x - y + 4z &= 7 \end{aligned}$$

solution: _____

9.) Three families are going to see a movie at the theater. The first family buys two medium popcorns, a small soda, and a box of candy and spends \$14. The second family buys one medium popcorn, a small soda, and three boxes of candy and spends \$15. The third family buys three medium popcorns and a small soda and spends \$16. What is the cost of one medium popcorn? one small soda? one box of candy?

10.) Mukwonago was the big winner at last year's Classic 8 Conference track meet with the help of 20 individual-event place winners earning a combined 68 team points (in other words, MHS had 20 people place either 1st, 2nd, or 3rd and scored a total of 68 total team points). A 1st place finish earns 5 team points, a 2nd place finish earns 3 team points, and a 3rd place finish earns 1 team point. MHS had a strong 2nd place showing, with as many 2nd place finishers as 1st and 3rd place finishers combined. Exactly how many athletes finished in 1st place? 2nd place? 3rd place?