

23.  **TAKS REASONING** Which ordered triple is a solution of the system?

$$2x + 5y + 3z = 10$$

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

$$5x - 2y + 7z = 12$$

- (A) (7, 1, -3) (B) (7, -1, -3) (C) (7, 1, 3) (D) (-7, 1, -3)

24.  **TAKS REASONING** Which ordered triple describes all of the solutions of the system?

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

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

$$3x - 3y + 2z = 9$$

- (A) $(-x, x + 2, 0)$ (B) $(x, x - 3, 0)$ (C) $(x + 2, x, 0)$ (D) $(0, y, y + 4)$

CHOOSING A METHOD Solve the system using any algebraic method.

25. $x + 5y - 2z = -1$
 $-x - 2y + z = 6$
 $-2x - 7y + 3z = 7$

26. $4x + 5y + 3z = 15$
 $x - 3y + 2z = -6$
 $-x + 2y - z = 3$

27. $6x + y - z = -2$
 $x + 6y + 3z = 23$
 $-x + y + 2z = 5$

28. $x + 2y = -1$
 $3x - y + 4z = 17$
 $-4x + 2y - 3z = -30$


29. $2x - y + 2z = -21$
 $x + 5y - z = 25$
 $-3x + 2y + 4z = 6$

30. $4x - 8y + 2z = 10$
 $-3x + y - 2z = 6$
 $2x - 4y + z = 8$

31. $-x + 5y - z = -16$
 $2x + 3y + 4z = 18$
 $x + y - z = -8$

32. $2x - y + 4z = 19$
 $-x + 3y - 2z = -7$
 $4x + 2y + 3z = 37$

33. $x + y + z = 3$
 $3x - 4y + 2z = -28$
 $-x + 5y + z = 23$

34.  **TAKS REASONING** Write a system of three linear equations in three variables that has the given number of solutions.

a. One solution

b. No solution

c. Infinitely many solutions

SYSTEMS WITH FRACTIONS Solve the system using any algebraic method.

35. $x + \frac{1}{2}y + \frac{1}{2}z = \frac{5}{2}$
 $\frac{3}{4}x + \frac{1}{4}y + \frac{3}{2}z = \frac{7}{4}$
 $\frac{1}{3}x + \frac{3}{2}y + \frac{2}{3}z = \frac{13}{6}$

36. $\frac{1}{3}x + \frac{5}{6}y + \frac{2}{3}z = \frac{4}{3}$
 $\frac{1}{6}x + \frac{2}{3}y + \frac{1}{4}z = \frac{5}{6}$
 $\frac{2}{3}x + \frac{1}{6}y + \frac{3}{2}z = \frac{4}{3}$

37. **REASONING** For what values of a , b , and c does the linear system shown have $(-1, 2, -3)$ as its only solution? *Explain* your reasoning.

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

$$-x - y + z = b$$

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

CHALLENGE Solve the system of equations. *Describe* each step of your solution.

38. $w + x + y + z = 2$
 $2w - x + 2y - z = 1$
 $-w + 2x - y + 2z = -2$
 $3w + x + y - z = -5$

39. $2w + x - 3y + z = 4$
 $w - 3x + y + z = 32$
 $-w + 2x + 2y - z = -10$
 $w + x - y + 3z = 14$

40. $w + 2x + 5y = 11$
 $-2w + x + 4y + 2z = -7$
 $w + 2x - 2y + 5z = 3$
 $-3w + x = -1$

41. $2w + 7x - 3y = 41$
 $-w - 2x + y = -13$
 $-2w + 4x + z = 12$
 $-w - x + y = -8$