

NAME: _____

1. Solve the system of equations:

$$\begin{aligned}x &= 3 \\5x + 4y &= -9 \\-x + 4y - 2z &= -25\end{aligned}$$

2. Solve the system of equations:

$$\begin{aligned}x &= 2 \\2x + 2y &= 2 \\-x + 6y - 4z &= 8\end{aligned}$$

Solve the system:

$$\begin{aligned}3. \quad y + z &= -1 \\y - 2z &= 2 \\3y &= 1\end{aligned}$$

$$\begin{aligned}4. \quad 2x - 4y + 2z &= 4 \\5x - 3y + 5z &= -4 \\4x - 5y + 2z &= 8\end{aligned}$$

$$\begin{aligned}5. \quad 6x - 2y - 4z &= -8 \\3x - 5y + 5z &= -14 \\x + y - 5z &= 6\end{aligned}$$

6. Solve the system of equations:

$$\begin{aligned}x + y + z &= -5 \\-2x - y + z &= -1 \\x - 2y - z &= 0\end{aligned}$$

7. Solve the system of equations:

$$\begin{aligned}x + y + z &= -7 \\-2x - y + z &= 4 \\x - 2y - z &= 2\end{aligned}$$

8. Solve the system of equations:

$$\begin{aligned}x - 4y + z &= -1 \\x + 2y + z &= 11 \\y + 2z &= 8\end{aligned}$$

9. Solve the system of equations:

$$\begin{aligned}x + 3y + z &= 10 \\x + y + z &= 2 \\y - 2z &= 2\end{aligned}$$

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10. Solve the system:

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

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

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

[A] $(3, -1, -2)$ [B] $(1, -6, -1)$

[C] $(3, 1, -4)$ [D] $(4, -1, -4)$

11. Solve the system:

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

$$x - y - z = 4$$

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

[A] $(0, -2, -5)$ [B] $(-1, 2, -11)$

[C] $(-1, -2, -3)$ [D] $\left(0, -\frac{9}{2}, -2\right)$

12. Compare the quantity in Column A with the quantity in Column B.

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

$$2x - 3y - 8z = -2$$

$$x - y - 4z = 1$$

Column A Column B

x

z

- [A] The quantity in Column A is greater.
[B] The quantity in Column B is greater.
[C] The two quantities are equal.
[D] The relationship cannot be determined on the basis of the information supplied.

13. Which system has no solution because it consists of two and only two parallel planes?

[A] $x + y + z = 3$ [B] $2x + y + z = 4$

$x + y + z = -4$ $2x + y + z = 1$

$x + 2y + z = 1$ $2x + y + z = 5$

[C] $x = 4$ [D] $x - 3y + z = 4$

$y = 7$ $x + 3y + z = 4$

$x + y - z = 6$ $x - 3y + 2z = 4$

14. Which point is the solution to this system?

$$x + y - z = 4$$

$$y = 2x$$

$$3x + y - 4z = -5$$

[A] $(2, 4, 2)$ [B] $(4, 8, 8)$

[C] $(3, 6, 5)$ [D] $(1, 2, -1)$

- [1] $(3, -6, -1)$
- [2] $(2, -1, -4)$
- [3] inconsistent; no solution
- [4] $(1, -2, -3)$
- [5] $(-3, -1, -2)$
- [6] $(-2, 1, -4)$
- [7] $(-3, -1, -3)$
- [8] $(4, 2, 3)$
- [9] $(-3, 4, 1)$
- [10] A
- [11] C
- [12] B
- [13] A
- [14] C