1. Find the ordered triple that is a solution for the system.

1. \( x + y - z = 1 \)
2. \( x - y + 7z = 38 \)
3. \( 7x + 7y - 7z = 5 \)

Select the correct answer.

a. \((7, 2, -4)\)
b. no solution
c. \((7, -2, 4)\)
d. an infinite number of solutions
e. \((7, 1, -4)\)

2. Fill in the blanks.

For the system of equations.

1. \(2x + 7y + z = 21\)
2. \(2y + 4z = 12\)
3. \(-x + 7z = 11\)

To eliminate the variable \(y\) from equations 1) and 2) using the LCM, multiply equation 1) by \(-2\), and multiply equation 2) by \(7\).
3. Fill in the blanks.

Find the solution for the system of equations.

1. \[3x - 5y + z = 13\]
2. \[4x + y - z = 24\]
3. \[-x + 5y - 2z = 9\]

\[
\begin{align*}
6x - 10y + 2z &= 26 \quad (2 \times \text{equation 1}) \\
-x + 5y - 2z &= 9 \quad \text{(equation 3)} \\
5x - 5y &= 35 \quad \text{(equation 4)} \quad \text{(divide terms by 5)} \\
x - y &= 7 \\
\end{align*}
\]

Therefore, the solution is

\[x = 3, \quad y = -4, \quad z = -16\]

4. Fill in the blanks.

Solve the system of equations.

1. \[5x + y - z = 30\]
2. \[x + y + z = 8\]
3. \[x - y + z = 0\]

The solution is

\[x = 5, \quad y = 4, \quad z = -1\]
5. Fill in the blanks.

The sum of three numbers is 32. 6 times the second number decreased by 3 times the third number is 138. The second number is 4 times the first number. Find the value of the three numbers.

Let \( x = \) first number
\( y = \) second
\( z = \) third

5.  
The first number is \( \frac{6}{24} \)
The second number is \( \frac{24}{2} \)
The third number is \( \frac{2}{2} \)

\[
\begin{align*}
\begin{cases}
 x + y + z &= 32 \\
 6y - 3z &= 138
\end{cases}
\quad \text{(rearrange terms)}
\end{align*}
\]

\[
\begin{align*}
\begin{cases}
 x + y + z &= 32 \\
 6y - 3z &= 138 \\
 -4x + y &= 0
\end{cases}
\quad \text{(now solve)}
\end{align*}
\]