

Nov. 20, 2017

8th Math - Algebra

We can:

solve systems of linear equations by:

Elimination:

$$\begin{array}{l} \textcircled{1} \quad 3x - y = 9 \quad \dots \\ \textcircled{2} \quad 2x - y = 7 \end{array}$$

$-y + (-y) = -2y$
 $-y - (-y) = 0y$

$$\begin{array}{r} \textcircled{1} \quad \textcircled{2} \\ (3x - y) - (2x - y) = 9 - 7 \\ 3x - y - 2x + y = 2 \\ 1x = 2 \end{array}$$
$$\begin{array}{r} 3(2) - y = 9 \\ 6 - y = 9 \\ -6 \quad -6 \\ -y = 3 \\ \frac{-y}{-1} = \frac{3}{-1} \\ y = -3 \end{array}$$

Substitution:

$$\begin{array}{l} 2j + k = 3 \\ k = j - 9 \end{array}$$
$$\begin{array}{l} 2j + (j - 9) = 3 \\ 3j - 9 = 3 \\ +9 \quad +9 \\ 3j = 12 \\ \frac{3j}{3} = \frac{12}{3} \\ j = 4 \end{array}$$
$$\begin{array}{l} k = 4 - 9 \\ k = -5 \end{array}$$