



Air maths tuition

Interact, engage and perform

Simultaneous Equations - Elimination method - Tutorial 1

Find two numbers which add together to give 6 and the difference is 2.

Let the numbers be x and y

$$x + y = 6 \quad \textcircled{1}$$

$$x - y = 2 \quad \textcircled{2}$$

$$\textcircled{1} - \textcircled{2}: \quad \therefore 2y = 4 \quad \left| \begin{array}{l} +y \\ -y \end{array} \right. = 2y$$
$$\therefore y = 2$$

Sub. $y = 2$ into $\textcircled{1}$ $x + 2 = 6$
 $\therefore x = 4 \quad \therefore x = 4, y = 2$

$$\textcircled{1} + \textcircled{2}: \quad \therefore 2x = 8 \quad \left| \begin{array}{l} +y \\ +y \end{array} \right. = 0$$
$$\therefore x = 4$$

Sub. $x = 4$ into $\textcircled{1}$ $4 + y = 6$
 $\therefore y = 2 \quad \therefore x = 4, y = 2$

$$\textcircled{2} \quad \left. \begin{array}{l} 2x + 3y = 7 \\ 2x + y = 5 \end{array} \right\} x = 2, y = 1$$

$$\textcircled{3} \quad \left. \begin{array}{l} 3x - 2y = 7 \\ 5x + 2y = 17 \end{array} \right\} x = 3, y = 1$$

$$\textcircled{4} \quad \left. \begin{array}{l} 4x - 3y = 6 \\ 2x - 3y = 0 \end{array} \right\} x = 3, y = 2$$

$$\textcircled{5} \quad \left. \begin{array}{l} 5x + 4y = 13 \\ x + 4y = 9 \end{array} \right\} x = 1, y = 2$$

$$\textcircled{6} \quad \left. \begin{array}{l} 7x - 2y = 22 \\ 5x + 3y = 29 \end{array} \right\} x = 4, y = 3$$

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