



Air maths tuition

Interact, engage and perform

Simultaneous Equations - Elimination method - Tutorial 2

$\begin{aligned} \textcircled{2} \quad 2x + 3y &= 7 \quad \textcircled{1} \\ 2x + y &= 5 \quad \textcircled{2} \end{aligned}$	$\begin{aligned} \textcircled{1} \quad x + y &= 6 \\ x - y &= 2 \end{aligned} \left. \vphantom{\begin{aligned} \textcircled{1} \quad x + y &= 6 \\ x - y &= 2 \end{aligned}} \right\} x=4, y=2$
$\begin{aligned} \textcircled{1} - \textcircled{2} : \quad \therefore 2y &= 2 & +3y - y = 2y \\ \therefore y &= 1 \end{aligned}$	$\begin{aligned} \textcircled{2} \quad 2x + 3y &= 7 \\ 2x + y &= 5 \end{aligned} \left. \vphantom{\begin{aligned} \textcircled{2} \quad 2x + 3y &= 7 \\ 2x + y &= 5 \end{aligned}} \right\} x=2, y=1$
<p>Sub. into $\textcircled{2}$:</p> $\begin{aligned} 2x + 1 &= 5 \\ \therefore 2x &= 4 \\ \therefore x &= 2 \end{aligned}$	$\begin{aligned} \textcircled{3} \quad 3x - 2y &= 7 \\ 5x + 2y &= 17 \end{aligned} \left. \vphantom{\begin{aligned} \textcircled{3} \quad 3x - 2y &= 7 \\ 5x + 2y &= 17 \end{aligned}} \right\} x=3, y=1$
$\therefore x=2, y=1$	$\begin{aligned} \textcircled{4} \quad 4x - 3y &= 6 \\ 2x - 3y &= 0 \end{aligned} \left. \vphantom{\begin{aligned} \textcircled{4} \quad 4x - 3y &= 6 \\ 2x - 3y &= 0 \end{aligned}} \right\} x=3, y=2$
	$\begin{aligned} \textcircled{5} \quad 5x + 4y &= 13 \\ x + 4y &= 9 \end{aligned} \left. \vphantom{\begin{aligned} \textcircled{5} \quad 5x + 4y &= 13 \\ x + 4y &= 9 \end{aligned}} \right\} x=1, y=2$
	$\begin{aligned} \textcircled{6} \quad 7x - 2y &= 22 \\ 5x + 3y &= 29 \end{aligned} \left. \vphantom{\begin{aligned} \textcircled{6} \quad 7x - 2y &= 22 \\ 5x + 3y &= 29 \end{aligned}} \right\} x=4, y=3$

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