

Simultaneous Equations

SUBSTITUTION METHOD

Solve each pair of equations using the substitution method.

1

$$\begin{aligned}x &= 2y + 1 \\x + y &= 10\end{aligned}$$

2

$$\begin{aligned}y &= 3x - 2 \\2x + y &= 8\end{aligned}$$

3

$$\begin{aligned}x + y &= 9 \\x - y &= 3\end{aligned}$$

4

$$\begin{aligned}2x + y &= 7 \\x &= y - 1\end{aligned}$$

5

$$\begin{aligned}x - 2y &= 1 \\3x + y &= 17\end{aligned}$$

6

$$\begin{aligned}y &= 5 - x \\x^2 + y^2 &= 13\end{aligned}$$

7

$$\begin{aligned}y &= x + 2 \\xy &= 15\end{aligned}$$

8

$$\begin{aligned}x^2 - y &= 5 \\x + y &= 7\end{aligned}$$

9

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

10

$$\begin{aligned}x + y &= 5 \\xy &= 6\end{aligned}$$

ANSWERS

1. $x = 7, y = 3$

2. $x = 2, y = 4$

3. $x = 6, y = 3$

4. $x = 2, y = 3$

5. $x = 5, y = 2$

6. $x = 2, y = 3$ or $x = 3, y = 2$

7. $x = 3, y = 5$ or $x = -5, y = -3$

8. $x = 3, y = 4$ or $x = -4, y = 11$

9. $x = 4, y = 3$

10. $x = 2, y = 3$ or $x = 3, y = 2$