

1 Checking a solution

- a) $x + y = 12$ and $x = 5$. Work out y .
b) Is $x = 2, y = 6$ the solution of $x + y = 8$ and $3x + y = 12$?
Show how you know.

a) $5 + y = 12, y = 7$
b) $2 + 6 = 8 \checkmark, 6 + 6 = 12 \checkmark$
yes, it fits both

2 Adding to eliminate

Solve the simultaneous equations

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

Add the equations. $2x = \boxed{}$

$2x = 18, x = 9$
 $9 + y = 13$
 $x = 9, y = 4$

3 Subtracting to eliminate

Solve the simultaneous equations

$$\begin{aligned}4x + y &= 19 \\x + y &= 7\end{aligned}$$

Subtract the equations. $3x = \boxed{}$

$3x = 12, x = 4$
 $4 + y = 7$
 $x = 4, y = 3$

4 Add or subtract?

- $x + 2y = 10$
 $3x - 2y = 6$
a) To get rid of y , do you add or subtract the equations?
b) Solve the simultaneous equations.

a) add: $+2y$ and $-2y$
b) $4x = 16, x = 4$
 $x = 4, y = 3$

Simultaneous equations revision mat answers

Foundation B

5 Multiplying first

- $3x + 2y = 13$
 $x + y = 5$
a) Multiply $x + y = 5$ by 2. Write the new equation.
b) Subtract it from $3x + 2y = 13$ to find x . Then find y .

a) $2x + 2y = 10$
b) $x = 13 - 10 = 3$
 $x = 3, y = 2$

6 Sum and difference

Two numbers add up to 14. Their difference is 4.

- a) Write two equations, using x and y .
b) Find the two numbers.

a) $x + y = 14, x - y = 4$
b) $2x = 18: 9$ and 5

7 Forming equations

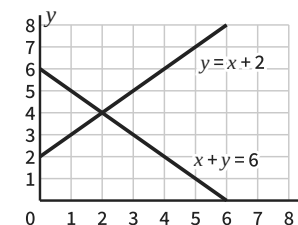
1 notebook and 1 pen cost £5. 2 notebooks and 1 pen cost £8.

- a) Work out the cost of one notebook.
b) Work out the cost of one pen.

a) one more notebook: $£8 - £5 = £3$
b) $£5 - £3 = £2$

8 Solving with graphs

- a) Write down the coordinates of the point where the lines cross.
b) Write down the solution of $y = x + 2$ and $x + y = 6$.



a) $(2, 4)$
b) $x = 2, y = 4$