

Simultaneous Equations

ANSWERS

Calculator | 30 minutes | Total marks: 21

Name Class

- 1 (a) $x + y = 9$ and $x = 4$

Work out the value of y .

$$y = 5 \text{ (1)} \quad [1 \text{ mark}]$$

- (b) $2x + y = 11$ and $y = 3$

Work out the value of x .

$$2x = 8 \text{ (1)}$$

$$x = 4 \text{ (1)} \quad [2 \text{ marks}]$$

- 2 Two numbers add up to 10

The difference between the two numbers is 2

Work out the two numbers.

$$\text{Answer } 6 \text{ and } 4 \text{ (1)(1)} \quad [2 \text{ marks}]$$

- 3 Solve the simultaneous equations

$$x + y = 8$$

$$x - y = 2$$

Add the two equations. $2x = 10 \text{ (1)}$

$$x = 5 \text{ (1)}$$

$$y = 3 \text{ (1)} \quad [3 \text{ marks}]$$

4

Solve the simultaneous equations

$$2x + y = 13$$

$$x + y = 8$$

Subtract the two equations. $x = \boxed{5} \text{ (1)}$

$$5 + y = 8 \text{ (1)}$$

$$x = \underline{5}$$

$$y = \underline{3 \text{ (1)}} \quad [3 \text{ marks}]$$

5

Solve the simultaneous equations

$$3x + y = 17$$

$$x + y = 7$$

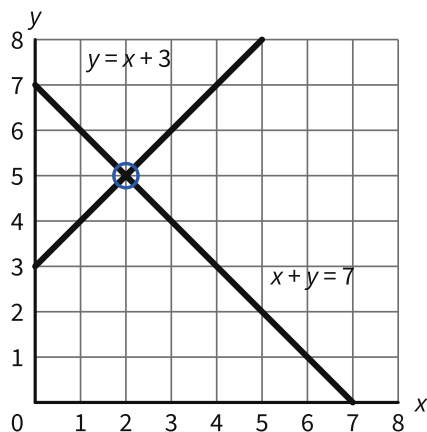
$$2x = 10 \text{ (1)}$$

$$x = 5 \text{ (1)}$$

$$x = \underline{5}$$

$$y = \underline{2 \text{ (1)}} \quad [3 \text{ marks}]$$

6

The grid shows the graphs of $y = x + 3$ and $x + y = 7$ 

The solution of the simultaneous equations is where the two lines cross.

Write down the solution.

$$x = \underline{2 \text{ (1)}} \dots\dots\dots$$

$$y = \underline{5 \text{ (1)}} \dots\dots\dots [2 \text{ marks}]$$

7

1 apple and 1 banana cost 50p.

2 apples and 1 banana cost 80p.

(a) Work out the cost of one apple.

$$80 - 50 \text{ (1)}$$

Answer 30 (1) p [2 marks]

(b) Work out the cost of one banana.

Answer 20 (1) p [1 mark]

8

Mia says that $x = 3$, $y = 4$ is the solution of these simultaneous equations.

$$x + y = 7$$

$$2x + y = 10$$

Is Mia correct?

You **must** show your working.

$$3 + 4 = 7 \text{ (1)}$$

$$2 \times 3 + 4 = 10, \text{ so yes (1)}$$

[2 marks]

Question	Topic	RAG
1	I can substitute a known value into an equation	
2	I can find two numbers from their sum and difference	
3	I can solve simultaneous equations by adding	
4	I can solve simultaneous equations by subtracting	
5	I can solve simultaneous equations	
6	I can read a solution from a graph	
7	I can solve a problem with two unknowns	
8	I can check a solution	