

Simultaneous Equations

GCSE Maths · Practice Questions

20 questions · 62 marks total

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Section A · Foundation

Questions 1–3 are the most straightforward; they get harder as you go on. Question 10 is the most challenging.

1 [1 mark]

$$x + y = 10 \text{ and } x = 4$$

Work out the value of y .

.....

2 [2 marks]

Solve

$$x + y = 9$$

$$x - y = 3$$

.....

3 [2 marks]

Solve

$$3x + y = 17$$

$$x + y = 7$$

.....

4 [2 marks]

Solve

$$4x + y = 14$$

$$2x + y = 8$$

.....

5

[3 marks]

Solve

$$2x + 3y = 16$$

$$2x + y = 8$$

6

[3 marks]

Solve

$$5x - 2y = 4$$

$$3x + 2y = 12$$

7

[3 marks]

Solve

$$x + 3y = 14$$

$$2x + y = 13$$

8

[3 marks]

Solve

$$y = 2x + 1$$

$$3x + y = 16$$

9

[4 marks]

3 coffees and 2 teas cost £10.40

1 coffee and 2 teas cost £6.00

Work out the cost of one coffee and the cost of one tea.

10

[4 marks]

At a cinema, 2 adult tickets and 3 child tickets cost £34.50
3 adult tickets and 2 child tickets cost £38.00
Work out the cost of one adult ticket and one child ticket.

Section B · Higher

Higher-tier style. Again, questions 1–3 are the gentlest and question 10 is the hardest.

1

[2 marks]

Solve

$$3x + 2y = 12$$

$$x - 2y = 4$$

2

[2 marks]

Solve

$$y = 3x - 2$$

$$y = x + 6$$

3

[3 marks]

Solve

$$4x + 3y = 25$$

$$3x - 2y = 6$$

4

[3 marks]

Solve

$$5x + 4y = 22$$

$$3x - 2y = 0$$

5

[4 marks]

Solve

$$y = x^2 + 2$$

$$y = 3x + 6$$

6

[4 marks]

Solve

$$x^2 + y^2 = 25$$

$$y = x + 1$$

7

[4 marks]

4 small boxes and 3 large boxes have a total mass of 6.9 kg.

6 small boxes and 2 large boxes have a total mass of 7.6 kg.

Work out the mass of one small box and one large box.

8

[4 marks]

Find the coordinates of the point where the line $y = 2x + 3$ crosses the line $3x + 2y = 20$

9

[4 marks]

Show that the line $y = x + 5$ is a tangent to the curve $y = x^2 + 3x + 6$, and find the point where they touch.

At a theatre, a group of 5 adults and 3 children pay £55.

A group of 3 adults and 7 children pay £59.

(a) Work out the price of an adult ticket and a child ticket.

(b) Work out the cost for 4 adults and 6 children.

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