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Simultaneous Equations

Grade 5 topic · Foundation and Higher · Edexcel and AQA

How to use this pack
20 questions that get harder as you go. Foundation students: aim for Questions 1–15 (50 marks) and have a go at the rest. Higher students: complete all 20. Show your working on the lines and write your final answer on the answer line, then mark yourself with the answers at the back. Diagrams are not drawn accurately. Total: 75 marks.

Warm-up

1 Solve the simultaneous equations: $x + y = 5$ and $x - y = 3$. **[3 marks]**

Answer _____

2 Solve the simultaneous equations: $x + y = 2$ and $x - y = 8$. **[3 marks]**

Answer _____

3 Solve the simultaneous equations: $x + y = 5$ and $x - y = -1$. **[3 marks]**

Answer _____

4 Solve the simultaneous equations: $x + y = -5$ and $x - y = -3$. **[3 marks]**

Answer _____

5 Solve the simultaneous equations: $x + y = 0$ and $x - y = 8$. **[3 marks]**

Answer _____

Core

6 Solve the simultaneous equations: $3x + y = 7$ and $x + y = 5$. **[3 marks]**

Answer _____

7 Solve the simultaneous equations: $4x + y = 19$ and $x + y = 10$. **[3 marks]**

Answer _____

8 Solve the simultaneous equations: $3x + y = -7$ and $x + y = 1$. **[3 marks]**

Answer _____

9 Solve the simultaneous equations: $4x + y = 24$ and $x + y = 6$. **[3 marks]**

Answer _____

10 Solve the simultaneous equations: $3x + y = -3$ and $x + y = 1$. **[3 marks]**

Answer _____

Stretch

11 Solve the simultaneous equations: $2x + 3y = -12$ and $4x - y = -10$. **[4 marks]**

Answer _____

12 Solve the simultaneous equations: $2x + 3y = 22$ and $4x - 2y = -20$. **[4 marks]**

Answer _____

13 Solve the simultaneous equations: $4x + 3y = 35$ and $2x - y = 5$. **[4 marks]**

Answer _____

14 Solve the simultaneous equations: $4x + 3y = 20$ and $2x - y = 0$. **[4 marks]**

Answer _____

15 Solve the simultaneous equations: $4x + 3y = -4$ and $4x - 2y = -4$. **[4 marks]**

Answer _____

Challenge

16 2 adult tickets and 3 child tickets cost £26. 1 adult ticket and 4 child tickets cost £23. Work out the cost of one adult ticket and one child ticket. **[5 marks]**

Answer _____

17 3 pens and 2 pencils cost £30. 2 pens and 5 pencils cost £31. Work out the cost of 1 pen. **[5 marks]**

Answer _____

18 Solve the simultaneous equations: $y = 2x + 1$ and $3x + y = -14$. **[5 marks]**

Answer _____

19 A café sells small and large coffees. 4 small and 3 large cost £31. 5 small and 2 large cost £30. Work out the cost of a large coffee. **[5 marks]**

Answer _____

20 The sum of two numbers is 10 and their difference is 2. Find the two numbers. **[5 marks]**

Answer _____