

GCSE Maths: Forming simultaneous equations from words (Higher): answers

GCSE Maths - Quadratic and Simultaneous Equations - Higher - Lesson 14.8

Answers. Final answers to the worksheet questions. Full step-by-step solutions for every question are free at websink.site/gcse/maths/ch14-quadratics-simultaneous/higher/forming-simultaneous-equations-from-words/

Exercise 14H Forming simultaneous equations from words Non-calculator

- 1 2 adult tickets and 3 child tickets cost £45. 3 adult tickets and 1 child ticket cost £43. Work out the cost of one adult ticket and the cost of one child ticket.

Answer: adult ticket £12, child ticket £7

- 2 2 coffees and 1 cake cost £8. 1 coffee and 3 cakes cost £9. Work out the cost of one coffee and the cost of one cake.

Answer: coffee £3, cake £2

- 3 3 pens and 5 pencils cost £14. 2 pens and 4 pencils cost £10. Work out the total cost of 4 pens and 4 pencils.

Answer: £16

- 4 3 burgers and 2 portions of chips cost £19. 2 burgers and 3 portions of chips cost £16. Work out the cost of one burger and the cost of one portion of chips.

Answer: burger £5, portion of chips £2

- 5 3 notebooks and 2 rulers cost £18. 1 notebook and 4 rulers cost £16. Work out the total cost of 1 notebook and 1 ruler.

Answer: £7

- 6 The sum of two numbers is 47 and their difference is 9. Find the numbers.

Answer: 28 and 19

- 7 Two numbers add to 52. Twice the larger number plus the smaller number is 80. Find the numbers.

Answer: 28 and 24

- 8 Sam is 28 years older than his son. In 6 years' time Sam will be three times as old as his son. Find their ages now.

Answer: Sam 36, his son 8

- 9 The perimeter of a rectangular field is 140 m. The length is 10 m more than the width. Find the area of the field.

Answer: 1200 m²

- 10 A jar contains 24 coins. They are all 10p and 20p coins and are worth £3.40 altogether (340p). How many coins of each kind are there?

Answer: 14 ten-pence and 10 twenty-pence coins

- 11** A taxi company charges a fixed fee plus a rate per kilometre. A 5 km journey costs £11 and an 8 km journey costs £17. Find the fixed fee and the charge per kilometre.

Answer: fixed fee £1, £2 per km

- 12** Mia thinks of two numbers. Three times the first number plus the second number is 17. The first number plus twice the second is 9. What are the numbers?

Answer: 5 and 2

- 13** A boat can travel 36 km downstream in 3 hours, and the same 36 km upstream in 4.5 hours. Find the speed of the boat in still water (b km/h) and the speed of the current (c km/h).

Answer: boat 10 km/h, current 2 km/h

- 14** Four pens and three pencils cost £3.30 (330p). Two pens and five pencils cost £2.70 (270p). Work out the cost of one pen and the cost of one pencil, in pence.

Answer: pen 60p, pencil 30p

- 15** The digits of a two-digit number add up to 11. When the digits are reversed, the number increases by 27. Find the original number.

Answer: 47