Solving Linear Equations

GCSE Maths · Foundation tier · 16 questions · 45 marks

Name _____ Date _____ Score _____ / 45

Start at Level 1 and climb. Stuck? The worked answers show every step.

Level 1 · Warm-up **Level 2 · Build** **Level 3 · Exam-style** **Level 4 · Challenge (Foundation)**

Level 1 · Warm-up

11 marks

Two-step equations, brackets and unknowns on both sides.

1 Solve $3x + 5 = 20$. [2 marks]

Answer _____

2 Solve $\frac{x}{4} - 3 = 2$. [2 marks]

Answer _____

3 Solve $5(x - 2) = 35$. [2 marks]

Answer _____

4 Solve $7x - 4 = 3x + 16$. [3 marks]

Answer _____

5 Solve $2(3x + 1) = 5$. [2 marks]

Answer _____

Level 2 · Build 11 marks
Negative answers, fractions, and equations with two fractions.

6 Solve $4(x + 3) = 2(x - 5)$. [3 marks]

Answer _____

7 Solve $\frac{x + 5}{3} = x - 3$. [3 marks]

Answer _____

8 Solve $12 - 3x = 2x - 8$. [3 marks]

Answer _____

9 Solve $\frac{2x - 1}{5} = 3$. [2 marks]

Answer _____

Level 3 · Exam-style 14 marks
Forming equations from angles, perimeters and ages, and spotting mistakes.

10 The angles of a triangle are $x°$, $(2x + 10)°$ and $(3x - 40)°$. Work out the size of the largest angle. [4 marks]

Answer _____

11 (a) A rectangle has length $(2x + 3)$ cm and width $(x - 1)$ cm. Its perimeter is 34 cm. Form an equation and solve it to find x. [3 marks]

Answer _____

(b) Work out the area of the rectangle. [2 marks]

Answer _____

12 Ali is 3 times as old as Ben. In 5 years' time, Ali will be twice as old as Ben. How old is Ben now? [3 marks]

Answer _____

13 Leah solves $4x - 7 = 2x + 9$. Her working is: $4x - 2x = 9 - 7$, so $2x = 2$, so $x = 1$. Explain Leah's mistake, and solve the equation correctly. [2 marks]

Answer _____

Level 4 · Challenge (Foundation) 9 marks
Grade 4–5 problem solving: forming and solving equations from words.

14 The mean of 4, 7, x and $2x$ is 8. Work out the value of x. [3 marks]

Answer _____

15 A taxi charges £3.50 plus £1.20 for every mile. Kim's journey cost £16.10. How many miles did Kim travel? [3 marks]

Answer _____

16 Two consecutive odd numbers add up to 76. Form and solve an equation to find the two numbers. [3 marks]

Answer _____