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Solving Equations

Grade 3 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 (45 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: 69 marks.

Warm-up

1 Solve 6x + 11 = 53. **[2 marks]**

Answer _____

2 Solve 7x − 6 = 78. **[2 marks]**

Answer _____

3 Solve x/5 + 5 = 11. **[2 marks]**

Answer _____

4 Solve $32 - x = 29$. **[2 marks]**

Answer _____

5 Solve $7x + 1 = 15$. **[2 marks]**

Answer _____

Core

6 Solve $7x + 7 = 3x + 43$. **[3 marks]**

Answer _____

7 Solve $5x + 8 = 3x + 22$. **[3 marks]**

Answer _____

8 Solve 7x + 6 = 1x + 54. **[3 marks]**

Answer _____

9 Solve 7x + 4 = 2x + 14. **[3 marks]**

Answer _____

10 Solve 9x + 12 = 3x + 42. **[3 marks]**

Answer _____

Stretch

11 Solve 2(x + 6) = 1x + 24. **[4 marks]**

Answer _____

12 Solve 4(x + 4) = 2x + 22. **[4 marks]**

Answer _____

13 Solve 6(x + 3) = 2x + 46. **[4 marks]**

Answer _____

14 Solve 6(x + 2) = 2x + 44. **[4 marks]**

Answer _____

15 Solve 2(x + 3) = 1x + 15. **[4 marks]**

Answer _____

Challenge

16 Solve x/2 + x/3 = 45. **[4 marks]**

Answer _____

17 A rectangle has sides (4x + 1) cm and (x + 2) cm. Its perimeter is 76 cm. Work out x. **[5 marks]**

Answer _____

18 Solve (2x + 2)/5 = (x + 8)/5. **[5 marks]**

Answer _____

19 I think of a number. I multiply it by 6 and subtract 9. The answer is the same as when I add 41 to the number. What is my number? **[5 marks]**

Answer _____

20 A triangle has sides (2x + 1) cm, (3x − 2) cm and (x + 7) cm. Its perimeter is 54 cm. Work out the value of x and the length of the longest side. **[5 marks]**

Answer _____