Forming and Solving Equations

Grade 4 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 (55 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: 74 marks.

Warm-up

1 I think of a number, multiply it by 5 and add 5. The answer is 75. Form an equation and solve it to find the number. **[3 marks]**

Answer _____

2 I think of a number, multiply it by 4 and add 4. The answer is 64. Form an equation and solve it to find the number. **[3 marks]**

Answer _____

3 I think of a number, multiply it by 2 and add 3. The answer is 9. Form an equation and solve it to find the number. **[3 marks]**

Answer _____

4 I think of a number, multiply it by 3 and add 5. The answer is 35. Form an equation and solve it to find the number. **[3 marks]**

Answer _____

5 I think of a number, multiply it by 3 and add 6. The answer is 15. Form an equation and solve it to find the number. **[3 marks]**

Answer _____

Core

6 The sides of a triangle are x cm, (x + 2) cm and (2x − 4) cm. The perimeter is 38 cm. Form an equation and find x. **[4 marks]**

Answer _____

7 The sides of a triangle are x cm, (x + 3) cm and (2x − 3) cm. The perimeter is 44 cm. Form an equation and find x. **[4 marks]**

Answer _____

8 The sides of a triangle are x cm, (x + 5) cm and (2x − 3) cm. The perimeter is 62 cm. Form an equation and find x. **[4 marks]**

Answer _____

9 The sides of a triangle are x cm, (x + 5) cm and (2x − 2) cm. The perimeter is 39 cm. Form an equation and find x. **[4 marks]**

Answer _____

10 The sides of a triangle are x cm, (x + 8) cm and (2x − 3) cm. The perimeter is 25 cm. Form an equation and find x. **[4 marks]**

Answer _____

Stretch

11 Ali is 6 years older than Beth. The sum of their ages is 32. How old is Beth? **[4 marks]**

Answer _____

12 A rectangle has length (2x + 4) cm and width x cm. Its perimeter is 26 cm. Find x. **[4 marks]**

Answer _____

13 Pencils cost p pence and rubbers cost (p + 4) pence. 3 pencils and 2 rubbers cost 33 pence. Find p. **[4 marks]**

Answer _____

14 A number is multiplied by 3 and then 3 is subtracted. The result is the same as adding 9 to the number. Find the number. **[4 marks]**

Answer _____

15 A taxi charges £5 plus £3 per mile. A journey costs £35. How many miles was the journey? **[4 marks]**

Answer _____

Challenge

16 Three consecutive integers add to 33. Find the integers. **[5 marks]**

Answer _____

17 Two numbers differ by 3. Their sum is 27. Find both numbers. **[5 marks]**

Answer _____

18 Solve the equation 2x + 5 = 29 and check your answer. **[3 marks]**

Answer _____

19 Solve the equation 2x + 5 = 31 and check your answer. **[3 marks]**

Answer _____

20 Solve the equation 5x + 5 = 30 and check your answer. **[3 marks]**

Answer _____