

Equations with Brackets and Unknowns on Both Sides

For AQA GCSE Mathematics (8300) • Foundation tier

Name _____

Total marks: **40**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

1 Solve $3(x + 4) = 27$

[2 marks]

$x =$ _____

2 Solve $5(2d - 3) = 45$

[3 marks]

$d =$ _____

3 Solve $7x + 4 = 3x + 24$

[3 marks]

$x =$ _____

4 Solve $8x - 5 = 3x + 25$

[3 marks]

$x =$ _____

5 Solve $9x - 15 = 5x + 21$

[3 marks]

$x =$ _____

6 Solve $3(2x - 5) = 4x + 7$

[3 marks]

$x =$ _____

7 Solve $2(4x + 1) = 3x + 22$

[3 marks]

$x =$ _____

8 Solve $3(x + 2) = 2(x + 7)$

[3 marks]

$x =$ _____

- 9 Which equation has the solution $x = 4$?
Circle your answer.

[1 mark]

$$2(x + 1) = 10$$

$$3x + 2 = 2x + 4$$

$$5x - 4 = 3x$$

$$x + 7 = 3x + 1$$

- 10 Solve $12 - x = 2x + 3$

[3 marks]

$$x = \underline{\hspace{4cm}}$$

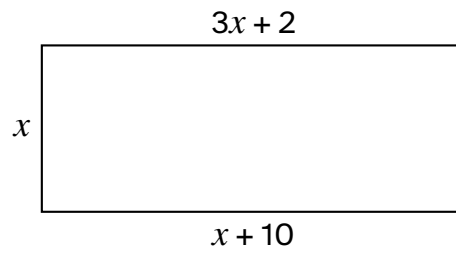
- 11 Priya solves $5x + 3 = 2x + 12$
Her first line of working is

$$7x + 3 = 12$$

What mistake has Priya made?

[1 mark]

- 12** Here is a rectangle.
All lengths are in centimetres.



Not drawn accurately

The opposite sides of a rectangle are equal.
Work out the value of x .

[3 marks]

$x =$ _____

- 13** Solve $2(x - 3) + 4(x + 1) = 22$

[3 marks]

$x =$ _____

14 Solve $\frac{x+5}{2} = x - 1$

[3 marks]

$x =$ _____

- 15** Ali and Ben think of the same number.
Ali multiplies the number by 5 and then subtracts 8
Ben multiplies the number by 3 and then adds 12
They both get the same answer.

Work out the number they both think of.

[3 marks]

Answer _____