

# Equations with Brackets

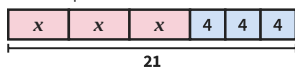
ANSWERS

1

Solve

$$3(x + 4) = 21$$

put the bars in one row



Expand  $3x + 12 = 21$

$- 12$  both sides  $3x = 9$

$\div 3$  both sides  $x = 3$

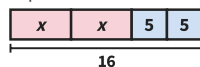
Answer  $x = 3$

2

Solve

$$2(x + 5) = 16$$

put the bars in one row



Expand  $2x + 10 = 16$

$- 10$  both sides  $2x = 6$

$\div 2$  both sides  $x = 3$

Answer  $x = 3$

3

Solve

$$5(x + 1) = 30$$

Expand  $5x + 5 = 30$

$- 5$  both sides  $5x = 25$

$\div 5$  both sides  $x = 5$

Answer  $x = 5$

4

Solve

$$2(x + 7) = 22$$

Expand  $2x + 14 = 22$

$- 14$  both sides  $2x = 8$

$\div 2$  both sides  $x = 4$

Answer  $x = 4$

5

Solve

$$3(x - 2) = 15$$

Expand  $3x - 6 = 15$

$+ 6$  both sides  $3x = 21$

$\div 3$  both sides  $x = 7$

Answer  $x = 7$

6

Solve

$$4(x - 3) = 8$$

Expand  $4x - 12 = 8$

$+ 12$  both sides  $4x = 20$

$\div 4$  both sides  $x = 5$

Answer  $x = 5$

7

I think of a number, add 4, then multiply by 3. The answer is 27. What was my number?

$3(n + 4) = 27$

Answer  $5$

8

A rectangle is 5 cm wide and  $(x + 2)$  cm long. Its area is 45 cm<sup>2</sup>. Find  $x$ .

$5(x + 2) = 45$

Answer  $x = 7$

# Equations with Brackets further practice

ANSWERS

9

Solve

$$4(x - 3) = 20$$

$4x - 12 = 20$

$4x = 32$

Answer  $x = 8$

10

Solve

$$3(2x + 1) = 27$$

$6x + 3 = 27$

$6x = 24$

Answer  $x = 4$

11

Solve

$$5(x + 6) = 10$$

$5x + 30 = 10$

$5x = -20$

Answer  $x = -4$

12

Solve

$$2(x + 4) = 13$$

$2x + 8 = 13$

$2x = 5$

Answer  $x = 2.5$

13

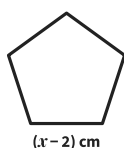
Six friends each buy a ticket for a show. Each ticket costs £ $t$ , and there is a £2 booking fee on each ticket. They pay £72 altogether. Find  $t$ .

$6(t + 2) = 72$

Answer  $t = 10$

14

This regular pentagon has a perimeter of 35 cm. Find  $x$ .

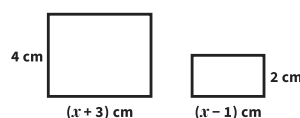


$5(x - 2) = 35$

Answer  $x = 9$

15

The total area of these two rectangles is 46 cm<sup>2</sup>. Find  $x$ .



$4(x + 3) + 2(x - 1) = 46$

$6x + 10 = 46$

Answer  $x = 6$

16

Asha solves  $4(x + 3) = 28$  by dividing both sides by 4 first. Does her method work? Show how you know.

$x + 3 = 7$ , so  $x = 4$

$4x + 12 = 28$ , so  $x = 4$

Answer Yes, both give  $x = 4$