

Equations and Inequalities

ANSWERS

Calculator | 30 minutes | Total marks: 28

Name _____ Class _____

1

Solve

(a) $x + 6 = 15$

$x = 9$ (1) [1 mark]

(b) $x - 4 = 11$

$x = 15$ (1) [1 mark]

(c) $5x = 35$

$x = 7$ (1) [1 mark]

(d) $\frac{x}{3} = 6$

$x = 18$ (1) [1 mark]

2

Solve

(a) $2x + 5 = 17$

$2x = 12$ (1)

$x = 6$ (1) [2 marks]

(b) $4x - 3 = 21$

$4x = 24$ (1)

$x = 6$ (1) [2 marks]

(c) $\frac{x}{2} + 1 = 6$

$\frac{x}{2} = 5$ (1)

$x = 10$ (1) [2 marks]

3

Solve $3(x + 2) = 21$

$$x + 2 = 7 \text{ or } 3x + 6 = 21 \text{ (1)}$$

$$x = 5 \text{ (1)}$$

[2 marks]

4

Jo thinks of a number, n .

She doubles her number and then adds 7

Her answer is 25

(a) Write an equation in terms of n .

$$\text{Answer } 2n + 7 = 25 \text{ (1)}$$

[1 mark]

(b) Solve your equation to find Jo's number.

$$2n = 18 \text{ (1)}$$

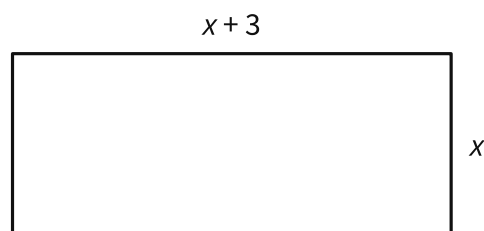
$$n = 9 \text{ (1)}$$

[2 marks]

5

Here is a rectangle.

All the lengths are in centimetres.



Not drawn accurately

The perimeter of the rectangle is 26 cm.

Work out the value of x .

$$x + 3 + x + x + 3 + x = 26 \text{ (1)}$$

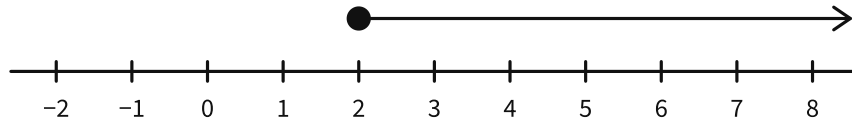
$$4x + 6 = 26, \text{ so } 4x = 20 \text{ (1)}$$

$$x = 5 \text{ (1)}$$

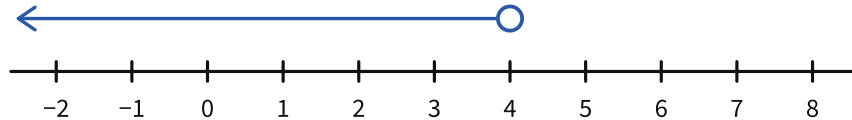
[3 marks]

6

(a) Write down the inequality shown on the number line.

Answer $x \geq 2$ (1)

[1 mark]

(b) Show the inequality $x < 4$ on the number line.

Open circle at 4 (1) Arrow to the left (1)

[2 marks]

7

 x is an integer and $2 < x \leq 6$ Write down all the possible values of x .

Answer 3, 4, 5, 6 (1)(1)

[2 marks]

8

Solve

(a) $x + 3 > 8$ Answer $x > 5$ (1)

[1 mark]

(b) $2x \leq 14$ Answer $x \leq 7$ (1)

[1 mark]

9

Solve $5x + 2 = 3x + 10$

$$2x + 2 = 10 \text{ (1)}$$

$$2x = 8 \text{ (1)}$$

$$x = \underline{4 \text{ (1)}}$$

[3 marks]

Question	Topic	RAG
1	I can solve one step equations	
2	I can solve two step equations	
3	I can solve an equation with a bracket	
4	I can write and solve an equation from words	
5	I can form and solve an equation from a shape	
6	I can read and draw an inequality on a number line	
7	I can list the integers that fit an inequality	
8	I can solve simple inequalities	
9	I can solve an equation with unknowns on both sides	