Writing an equation from a problem

6 questions | 18 marks

Equivalent correct methods earn the corresponding marks.

1. Mia has s stickers. She receives 9 more and now has 28. Write an equation and find her starting number. [3 marks]

Let s be the starting number.

Subtract 9 from $s + 9 = 28$: $s = 19$.

Check: $19 + 9 = 28$.

Answer: $s + 9 = 28$; 19 stickers.

2. A rope was l metres long. Cutting off 7 m leaves 15 m. Write an equation and find its original length. [3 marks]

Let l be the original length in metres.

Add 7 to both sides: $l = 22$.

Check: $22 - 7 = 15$.

Answer: $l - 7 = 15$; 22 m.

3. Five equal boxes hold 45 books. Let b be the number of books in one box. Write and solve an equation. [3 marks]

Five equal groups give $5b = 45$.

Divide by 5: $b = 9$.

Check: $5 \times 9 = 45$.

Answer: $5b = 45$; 9 books per box.

4. Some counters are shared equally among 4 pupils. Each pupil receives 8 counters. Use c for the total number. Write and solve an equation. [3 marks]

The total divided into 4 groups gives $c \div 4 = 8$.

Multiply by 4: $c = 32$.

Check: $32 \div 4 = 8$.

Answer: $c \div 4 = 8$; 32 counters.

5. A game costs 5 dollars for entry plus 2 dollars per round. A player pays 19 dollars. Write an equation and find the number of rounds. [3 marks]

Let r be the number of rounds.

Subtract 5: $2r = 14$. Divide by 2: $r = 7$.

Check: $2 \times 7 + 5 = 19$.

Answer: $2r + 5 = 19$; 7 rounds.

6. A rectangle is 6 cm long and w cm wide. Its perimeter is 30 cm. Form an equation and find the width. [3 marks]

The two lengths total 12 cm, so $2w + 12 = 30$.

Subtract 12: $2w = 18$. Divide by 2: $w = 9$.

Check: $6 + 9 + 6 + 9 = 30$ cm.

Answer: $2w + 12 = 30$; 9 cm.