

## Solving simple equations – find the missing value

MODULE 8 · ALGEBRA — PATTERNS, EXPRESSIONS AND EQUATIONS

ALGEBRA

SOLVE  $x + 5 = 12$ 

- Both sides of the equation must stay equal — like a pair of scales.
- Subtract 5 from **both sides**:  $x + 5 - 5 = 12 - 5$ .
- Answer:  $x = 7$ . Check:  $7 + 5 = 12$  ✓

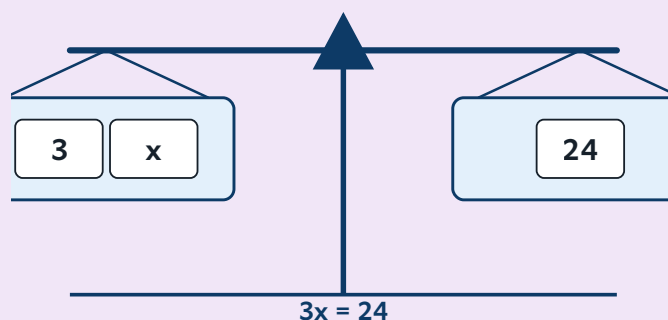
## HOW TO ANSWER TODAY

- Solve for x.** Do the OPPOSITE operation to both sides. + becomes −; × becomes ÷.

$$x + 7 = 15 \rightarrow x = 15 - 7 = 8 \quad 3x = 21 \rightarrow x = 21 \div 3 = 7$$

## TRY IT ON THE LINE

Use the balance to MODEL each equation. Take the same amount off both sides until only the letter is left on one pan.



- $3x = 24 \rightarrow$  divide both sides by 3  $\rightarrow x = \underline{\hspace{2cm}}$
- Solve  $x + 8 = 17 \rightarrow$  take 8 from both  $\rightarrow x = \underline{\hspace{2cm}}$
- Solve  $5n = 35 \rightarrow$  divide both by 5  $\rightarrow n = \underline{\hspace{2cm}}$
- Solve  $y - 4 = 11 \rightarrow$  add 4 to both  $\rightarrow y = \underline{\hspace{2cm}}$

## PRACTICE

1



Find x so the scale balances.

After the club hurling match, Tadhg shares the team's points equally between **3** forwards. Each forward ends up with **5** points. If x is the total points scored by the forwards, then  $x \div 3 = 5$ . What is x?

2



Find x so the scale balances.

On sports day, 5th class scores a total of **70** points across the relay events. Each team scores the same number of points, x, and there are **7** teams, so  $7x = 70$ . How many points did each team score?