

Two-step equations – informal solving

MODULE 8 · ALGEBRA — PATTERNS, EXPRESSIONS AND EQUATIONS

ALGEBRA

SOLVE $3x + 4 = 19$

- 1 Undo the $+ 4$ first — subtract 4 from both sides: $3x = 15$.
- 2 Now undo the $\times 3$ — divide both sides by 3: $x = 5$.
- 3 Check: $3 \times 5 + 4 = 15 + 4 = 19 \checkmark$

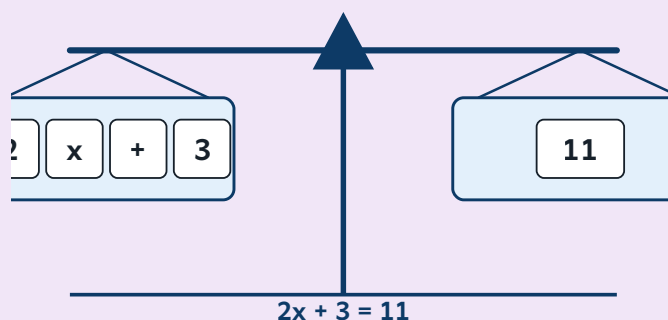
HOW TO ANSWER TODAY

- Solve in two steps. Undo the $+$ or $-$ first, then undo the $\times$ or $\div$.

$$2x + 5 = 13 \rightarrow 2x = 8 \rightarrow x = 4$$

TRY IT ON THE LINE

Two-step equations need TWO balancing moves. Undo the addition or subtraction first, THEN undo the multiplication or division.



- $2x + 3 = 11$: first subtract 3 $\rightarrow 2x = \underline{\quad}$ then divide by 2 $\rightarrow x = \underline{\quad}$
- Solve $3a - 1 = 14$: add 1 $\rightarrow 3a = \underline{\quad}$ divide by 3 $\rightarrow a = \underline{\quad}$
- Solve $5k + 2 = 27$: subtract 2 $\rightarrow 5k = \underline{\quad}$ divide by 5 $\rightarrow k = \underline{\quad}$
- Solve $4n - 6 = 18$: add 6 $\rightarrow 4n = \underline{\quad}$ divide by 4 $\rightarrow n = \underline{\quad}$

PRACTICE

1

Find x so the scale balances.

5th class are heading on a school tour to the Cliffs of Moher. The total cost is €58, made up of a €13 coach charge plus €9 per pupil for the visitor centre ticket. How many pupils, x , are going on the tour?

2

Find x so the scale balances.

On Monday morning Ms Ní Bhriain takes the roll in 5th class. She notices that 4 times the number of pupils on each table, take away 12 pupils who are out at hurling training, gives 32 pupils still in the room. How many pupils are on each table?