

Representing situations as equations

MODULE 10 · ALGEBRA — PATTERNS, EXPRESSIONS AND EQUATIONS

ALGEBRA

HOW TO ANSWER TODAY

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

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

- **Solve in two steps.** Undo the + or - first, then undo the × or ÷.

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

★ STRETCH PROBLEMS

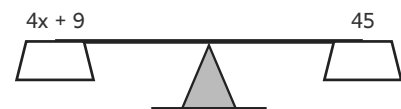
- 1 The school canteen orders milk cartons in equal trays. 7 trays hold 84 cartons in total. If x is the number of cartons in one tray, solve $7x = 84$ to find how many cartons are in each tray.

Find x so the scale balances.

- 2 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?

Find x so the scale balances.

- 3 Saoirse packs the same number of grapes into each of 4 small pots in her lunchbox, then adds 9 extra grapes loose on top. Altogether her lunchbox holds 45 grapes. If x is the number of grapes in each pot, solve $4x + 9 = 45$ to find how many grapes are in each pot.

Find x so the scale balances.

- 4 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 ?

Find x so the scale balances.