Equivalent expressions (4 + 4 + 4 = 3 × 4)

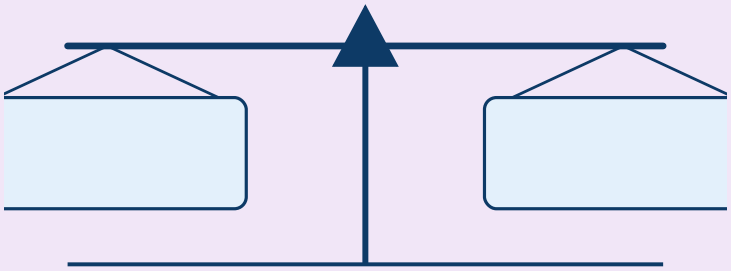
MODULE 10 · ALGEBRA — PATTERNS, RULES AND NUMBER SENTENCES ALGEBRA

HOW TO ANSWER TODAY

- **Function machine.** Do EACH step of the rule in order to the input.
  Rule × 4 + 2, input 5 → 5 × 4 = 20, + 2 = 22
- **Property names.** Order swaps ($a + b = b + a$) → commutative. Brackets move ($(a+b)+c = a+(b+c)$) → associative. One spreads over two ($a(b+c) = ab+ac$) → distributive.
  5 + 3 = 3 + 5 → commutative · 2 × (4 + 5) = 2 × 4 + 2 × 5 → distributive

TRY IT ON THE LINE

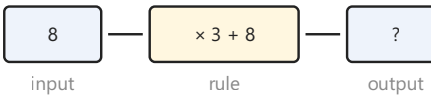
Use the balance to find the missing number that keeps both sides equal.



1. Work out the value that balances each number sentence.
2. Check by putting your number back into the sentence.
3. Write the matching fact-family sentence.

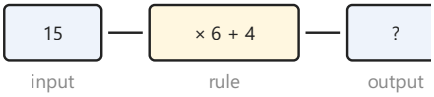
PRACTICE

1



In 4th class maths, Aoife draws a function machine in her copybook with the rule × 3 + 8. She puts the number 8 into the machine. What number comes out?

2



Tadhg's class has a function machine rule for working out birdseed servings at the classroom feeder: multiply the number of days by 6, then add 4 to get the total spoonfuls needed. If the feeder runs for 15 days, how many spoonfuls of birdseed are needed in total?