Describing a rule in words

MODULE 8 · ALGEBRA — PATTERNS, EXPRESSIONS AND EQUATIONS ALGEBRA

HOW TO ANSWER TODAY

- **Find the rule.** Look at how each input changes to its output. Try × first, then + or −.
  3 → 6, 5 → 10, 7 → 14 → rule is × 2

STRETCH PROBLEMS

1. The school canteen starts the week with **42** cartons of milk in the chiller. Each day the same number of cartons is sold, leaving **35** on Tuesday, **28** on Wednesday and **21** on Thursday. How many cartons will be left on Friday?

   What comes next in the sequence: 42, 35, 28, 21, ___ ?

2.

   Granny pays Niamh pocket money for helping with the calves at the farm. She uses a rule based on the number of calves Niamh feeds: **3** calves earns **€15**, **9** calves earns **€33**, and **10** calves earns **€36**. What is the rule?

3.

   Cian is selling raffle tickets for the 5th class GAA fundraiser. Each book of tickets costs the same in euros, plus a fixed booklet fee added to every order. His sales notebook shows: **9** books → **€58**; **6** books → **€40**; **8** books → **€52**. What is the rule linking the number of books to the total cost?

4. Cian saves his pocket money in a jar. Each week he counts what is left and writes the amount in his copy: **€14**, **€11**, **€8**, **€5**. If the pattern continues, how much will be in the jar next week?

   What comes next in the sequence: 14, 11, 8, 5, ___ ?

5.

   Ms Murphy is decorating the 5th class room for World Book Day. For every shelf she fills with books, she pins up a fixed number of bunting flags around the room. She notices a pattern between books used and total decorations: **10** → **23**, **6** → **19**, **3** → **16**. What is the rule?