

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 \times first, then $+$ or $-$.

$3 \rightarrow 6, 5 \rightarrow 10, 7 \rightarrow 14 \rightarrow$ rule is $\times 2$

★ STRETCH PROBLEMS

1



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 \rightarrow **€58**; **6** books \rightarrow **€40**; **8** books \rightarrow **€52**. What is the rule linking the number of books to the total cost?

2

Oisín brings a bag of bread to the pond in Wicklow to feed the ducks. After feeding them for **1 minute** he has **14** pieces left, after **2 minutes** he has **9** pieces, after **3 minutes** he has **4** pieces, and after **4 minutes** he has **-1** pieces (he had to borrow one from his sister). Following the same pattern, how many pieces will he have after **5 minutes**?

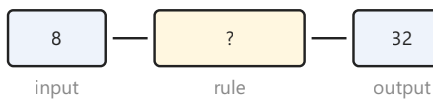
What comes next in the sequence: 14, 9, 4, -1, ___?

3

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, ___?

4



Mr Ó Broin is in the photocopier room getting worksheet packs ready for tomorrow. For each pupil, he prints a set number of sheets and then adds the same number of extra cover sheets to the pile. The pile sizes go **8** \rightarrow **32**, **3** \rightarrow **17** and **7** \rightarrow **29** pupils to total sheets. What is the rule that turns the number of pupils into the total number of sheets?

5

The 5th class library rota lists the page numbers each pupil reads aloud on Mondays: **23**, **33**, **43**, **53**, ___. The pattern continues in the same way. What page number comes next on the rota?