Continuing a pattern — what comes next?

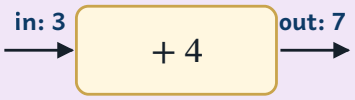
To continue a number pattern, look at how each term changes. The **rule** describes the change — usually 'add the same amount each time' or 'multiply by the same factor each time'.

→ **3, 7, 11, 15, …** rule: add 4. Next: 19.

→ **2, 6, 18, 54, …** rule: multiply by 3. Next: 162.

TRY IT ON THE LINE

Look at the function machine. Apply the rule to each input and write the output.



1. Rule: **+ 4**. If 3 → 7, then 7 → _____, then _____, then _____ (continue the pattern).
2. Rule: **× 2**. Inputs 1, 2, 3, 4, 5 → outputs _____, _____, _____, _____, _____
3. Rule: **− 3**. Inputs 10, 13, 16, 19 → outputs _____, _____, _____, _____

PRACTICE

1. At Camogie training under the floodlights, Aoife counts the cones laid out for each drill of the night. The first four drills use **19**, **25**, **31** and **37** cones, with the same number added each time. How many cones will be laid out for the fifth drill?

   What comes next in the sequence: 19, 25, 31, 37, ___ ?

2. Mr Ó Briain pins up the weekly star chart on the 5th class noticeboard. The total stars after each week so far are **5**, **17**, **29** and **41**. If the pattern continues, how many stars will be on the chart after the next week?

   What comes next in the sequence: 5, 17, 29, 41, ___ ?

CHALLENGE

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. 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, ___ ?