

Input and output – number rules shown as a table

MODULE 10 · ALGEBRA – PATTERNS, RULES AND NUMBER SENTENCES

ALGEBRA

HOW TO ANSWER TODAY

- **Find the rule.** Look at how each input changes to its output. Try $\times$ first, then $+$ or $-$.

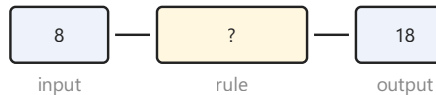
$3 \rightarrow 6, 5 \rightarrow 10, 7 \rightarrow 14 \rightarrow$ rule is $\times 2$

- **Function machine.** Do EACH step of the rule in order to the input.

Rule $\times 4 + 2$, input $5 \rightarrow 5 \times 4 = 20, + 2 = 22$

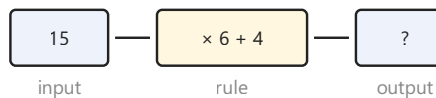
STRETCH PROBLEMS

1



Sean and his friends play a soccer match in the schoolyard at lunchtime. Each team starts with **10** bonus points before the match begins, then adds the goals they score. The scoreboard shows: **8** goals $\rightarrow$ **18** points, **3** goals $\rightarrow$ **13** points, **7** goals $\rightarrow$ **17** points. What is the rule that turns the number of goals into the team's points?

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?