

Rules for patterns using words and tables

MODULE 10 · ALGEBRA — PATTERNS, EXPRESSIONS AND EQUATIONS

ALGEBRA

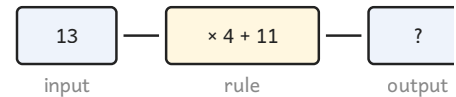
HOW TO ANSWER TODAY

- **Function machine.** Do EACH step of the rule in order to the input.
- **Find the rule.** Look at how each input changes to its output. Try $\times$ first, then $+$ or $-$.

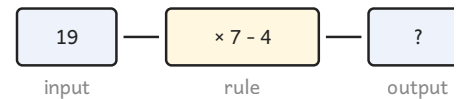
$3 \rightarrow 6, 5 \rightarrow 10, 7 \rightarrow 14 \rightarrow$ rule is $\times 2$

STRETCH PROBLEMS

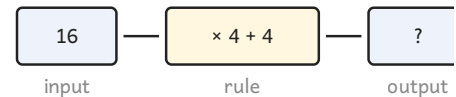
- 1 On the 5th class nature walk through the local park, Oisín spots a rule on a worksheet from his teacher: multiply the number of trees in each row by **4**, then add **11** birds resting nearby. If one row has **13** trees, what number does the rule give?



- 2 Cian and his sister Saoirse use a number machine to work out how to split their pocket money fairly. The rule is: multiply by **7**, then subtract **4**. Cian puts in the number **19**. What number comes out?



- 3 At break time, Tadhg shares biscuits using a rule: multiply the number of pupils by **4**, then add **4** extra biscuits for the teachers. If **16** pupils are in the group today, how many biscuits does he need in total?



- 4 Saoirse and her brother do extra jobs at home each week. For every euro Saoirse earns from chores, her parents top it up with the same bonus so she ends up with more. When Saoirse earned **€6** she got **€17**, when she earned **€8** she got **€19**, and when she earned **€1** she got **€12**. What is the rule for working out her total from her chore money?



- 5 Saoirse has a function machine drawn in her maths copy with the rule $\times 6 + 4$. She puts the number **15** into the machine. What number comes out?

