

Writing expressions from word situations

MODULE 10 · ALGEBRA — PATTERNS, EXPRESSIONS AND EQUATIONS

ALGEBRA

An **expression** turns words into algebra. Pick a letter for the unknown, then build the expression from the situation.

→ '5 more than a number' → $n + 5$.

→ 'Twice a number, less 3' → $2n - 3$.

HOW TO ANSWER TODAY

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

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

- **Letter expressions.** A letter stands for a number. Swap the letter for its value, then work out the answer.

If $n = 3$, then $2n + 5 = 2 \times 3 + 5 = 11$

WARM-UP

1



Ms Ní Bhriain has a rule for handing out pencils from the classroom store: each group gets **4** pencils for every child. Cian's group has **8** children. How many pencils does his group get?

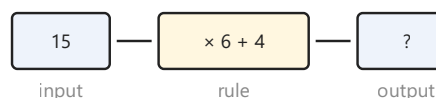
2

Saoirse is making sandwiches for the 5th class picnic in the school garden. She makes n sandwiches, then her teacher asks her to make **3** more so everyone gets one. If $n = \mathbf{9}$, what is the value of $n + \mathbf{3}$?

If $n = 9$, what is the value of $n + 3$?

PRACTICE

1



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

2

On the 5th class school-bag rota, each pupil carries **3** books plus **5** spare copybooks for the group. If n stands for the number of books per pupil and $n = \mathbf{9}$, work out $3n + \mathbf{5}$ to find the total number of items in one pupil's bag.

If $n = 9$, what is the value of $3n + 5$?

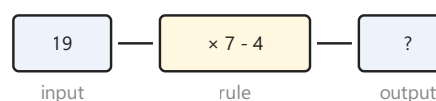
CHALLENGE

1

Mr Ó Briain hands out pencils from the classroom store. Each table gets $\mathbf{3}(n - \mathbf{1}) + \mathbf{4}$ pencils, where n is the number of pupils at the table. If $n = \mathbf{6}$, how many pencils does the table get?

If $n = 6$, what is the value of $3(n - 1) + 4$?

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?