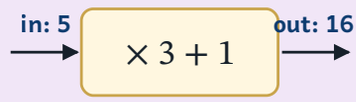
Lesson 103

Tables of values — input → output

MODULE 8 · ALGEBRA — PATTERNS, EXPRESSIONS AND EQUATIONS ALGEBRA

A **table of values** shows what a rule does. The rule is a **function machine**: a number goes in, the rule is applied, a new number comes out.



→ Rule '× 3 + 1': Input **1** → output 4. Input **2** → 7. Input **5** → 16.

HOW TO ANSWER TODAY

- **Solve for x.** Do the OPPOSITE operation to both sides. + becomes −; × becomes ÷.
  x + 7 = 15 → x = 15 − 7 = 8 · 3x = 21 → x = 21 ÷ 3 = 7
- **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 × 3 + 5 = 11
- **Solve in two steps.** Undo the + or − first, then undo the × or ÷.
  2x + 5 = 13 → 2x = 8 → x = 4

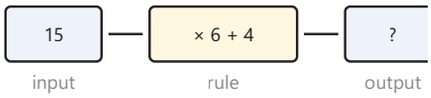
WARM-UP

The first two outputs apply the rule '× 3 + 1'. Apply the same rule to the rest.

	Output
a. 1	4
b. 2	7
c. 3	
d. 5	
e. 10	
f. 20	
g. 100	

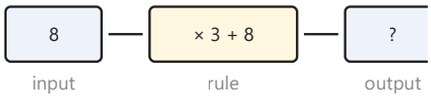
PRACTICE

1



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

2



Múinteoir draws a function machine on the whiteboard during 5th class maths. The rule on the machine is × **3** + **8**. Saoirse puts in the number **8**. What number comes out?