Lesson 110 Input and output – number rules shown as a table

FINDING A HIDDEN RULE

1. The table shows in **1** → out **4** and in **2** → out **5**.
2. **1 + 3 = 4** and **2 + 3 = 5**, so the rule is add **3**.
3. Use the rule: **3 + 3 = 6**, so out is **6**.

In	1	2	3
Out	4	5	

WARM-UP

Fill in the two-column input-output table for the 'add 5' game machine.

1. Write the rule 'add 5' at the top and label the columns input and output.
2. Put the inputs 3, 6, 9 and 0 in the input column.
3. Work out and write each output beside its input in the output column.

PRACTICE

1. In the arcade a scoring machine adds **5** to every score fed in. Padraig sends in a score of **7**. What score comes out?
2. The same 'add **5**' game machine now gets a score of **6** pushed in. What score does it show coming out?
3. A doubling game piles up your points, so its rule is 'multiply by **2**'. Niamh puts in **8** points. How many come out?
4. A treble-token machine has the rule times **3**. The children feed in **3**, then **6**, then **9**, then **0** tokens. Write the four outputs.
5. A mystery machine on the games board shows **13** comes out as **20**, **15** comes out as **22**, and **17** comes out as **24**. What one rule is it using?

SPOT THE MISTAKE

Cian reads this input–output table and writes a rule:

```
in 1 → out 5
in 2 → out 6
in 3 → out 7
Rule: × 5
```

Cian's rule is wrong. What is the correct rule? What comes out when the input is 4?

REFLECT Once you spotted a rule, did you test it on another row before filling the gaps?