

FEED THE  $\times 3$  PLAY MACHINE

- 1 The rule on the game machine is  $\times 3$ . Drop in input **4**.
- 2 Work out  $4 \times 3 = \mathbf{12}$ . The output that rolls out is 12.
- 3 Write the pair in the table:  $4 \rightarrow 12$ .
- 4 Next drop in **7**. Work out  $7 \times 3 = \mathbf{21}$ . Add the pair  $7 \rightarrow 21$ .

## WARM-UP

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

|        | Output               |
|--------|----------------------|
| a. 1   | 4                    |
| b. 2   | 7                    |
| c. 3   | <input type="text"/> |
| d. 5   | <input type="text"/> |
| e. 10  | <input type="text"/> |
| f. 20  | <input type="text"/> |
| g. 100 | <input type="text"/> |

## PRACTICE

- 1 In a board-game factory the  $\times 3$  machine takes a score token of **8**. What number rolls out?
- 2 At the play centre a  $+ 5$  points machine takes your card showing **12**. What score comes out?
- 3 A toy arcade  $\times 10$  machine takes a ticket value of **1**. What ticket value comes out the other end?
- 4 In a playground points game the  $\times 3$  machine is fed the number **10**. What output does the table show?

## ALWAYS, SOMETIMES, NEVER

Always, sometimes or never true? Write A, S or N.

- a. A  $\times 3$  machine turns the input 4 into the output 12
- b. The same rule is used for every row inside one input-output table
- c. An input of 0 gives an output of 0
- d. Knowing only the output lets you name the exact rule at once