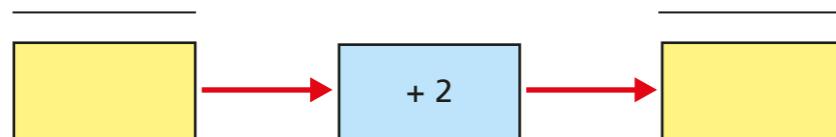


Single function machines (number)

- 1** Label the function machine using the words input and output.



- 2** Complete the function machines.

a) input $10 \rightarrow -5 \rightarrow$ output

c) input $10 \rightarrow +5 \rightarrow$ output

b) input $10 \rightarrow \div 5 \rightarrow$ output

d) input $10 \rightarrow \times 5 \rightarrow$ output

- 3** The input for each function machine is 56

Complete the function machines.

a) input $\square \rightarrow \div 7 \rightarrow$ output

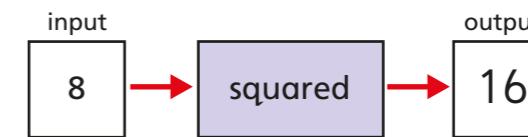
c) input $\square \rightarrow \times 17 \rightarrow$ output

b) input $\square \rightarrow + 77 \rightarrow$ output

d) input $\square \rightarrow - 17 \rightarrow$ output

4

Tommy has calculated the output for this function machine.
Tommy's answer is incorrect. What mistake has he made?



- 5** Find the output if 22.5 is the input. Complete the function machines.

a) input $\square \rightarrow$ add 50 \rightarrow output

b) input $\square \rightarrow$ subtract 50 \rightarrow output

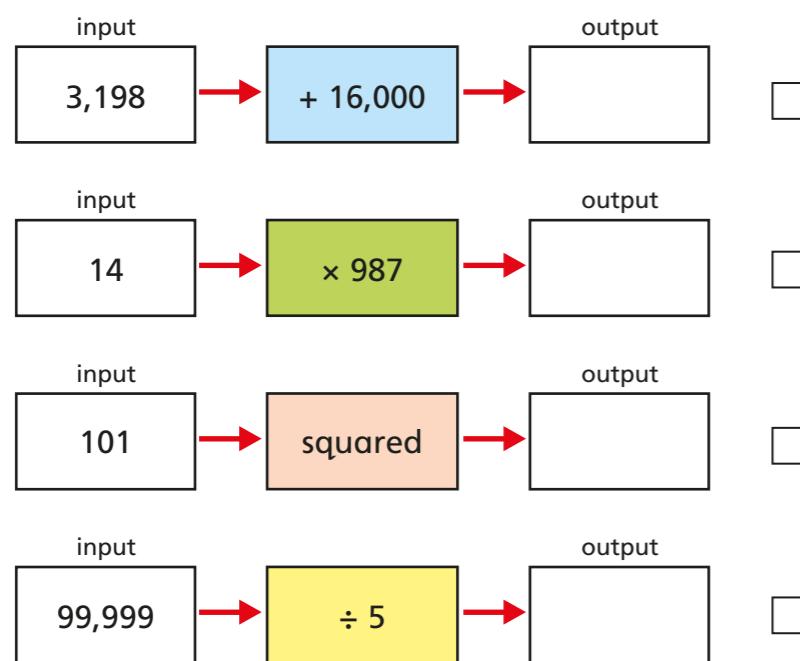
c) input $\square \rightarrow$ subtracted from 50 \rightarrow output

d) input $\square \rightarrow$ doubled \rightarrow output

e) input $\square \rightarrow$ squared \rightarrow output

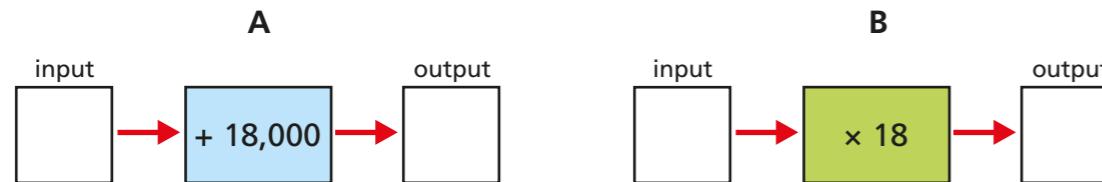
f) input $\square \rightarrow$ halved \rightarrow output

- 6** Estimate which of the function machines will give the biggest output.
Tick your answer.



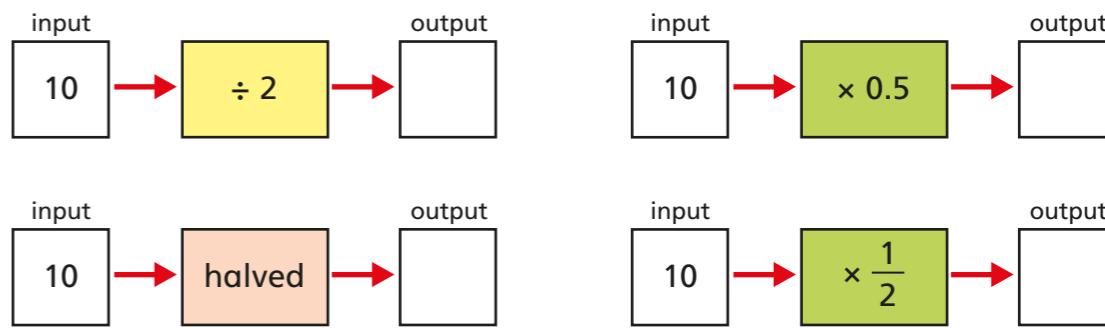
Work out the output of each function machine to check your estimate.

- 7** Here are 2 function machines.



- a) Find an input so that function machine A has the biggest output.
- b) Find an input so that function machine B has the biggest output.
- c) Find an input for each function machine so that both functions have the same output.

- 8** Dora thinks each of these function machines will give the same output for any input.
Is she correct? Explain your reasoning.



- 9** a) Draw as many function machines as possible that give an output of 64 when the input is 8

- b) How many different function machines can you think of that give the same output for a given input?

