

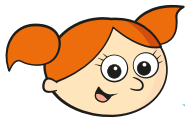
1 Whitney makes a pattern of triangles using sticks.

Complete the table below.



| | | | | | | | |
|---------------------|---|---|---|---|---|----|----|
| Number of triangles | 1 | 2 | 3 | 4 | 5 | 10 | |
| Number of sticks | | | | | | | 90 |

2 Complete the tables.



To find the number of wheels, you multiply the number of bicycles by 2

a)

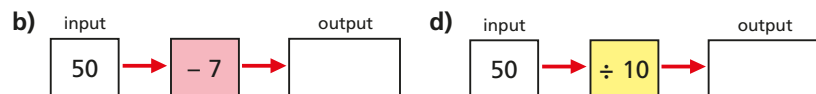
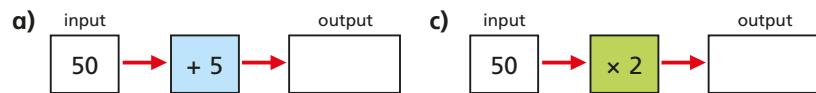
| | | | | | | |
|--------------------|---|---|---|----|----|----|
| Number of bicycles | 1 | 2 | 5 | | | 16 |
| Number of wheels | 2 | | | 18 | 24 | |

b)

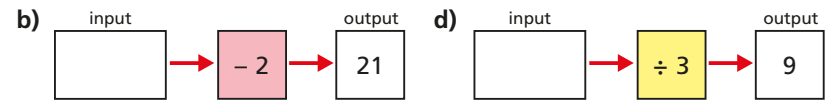
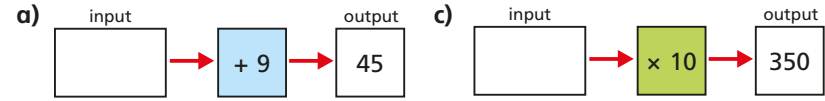
| | | | | | | |
|----------------|---|----|---|----|----|----|
| Number of ants | 1 | 2 | 5 | | | 16 |
| Number of legs | | 12 | | 18 | 24 | |

Explain how to find the number of legs.

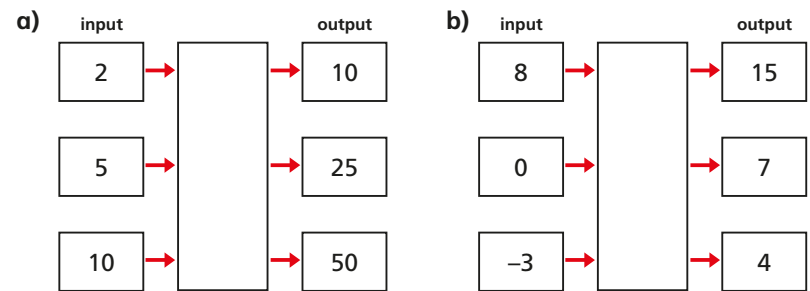
3 Calculate the outputs for the function machines below.



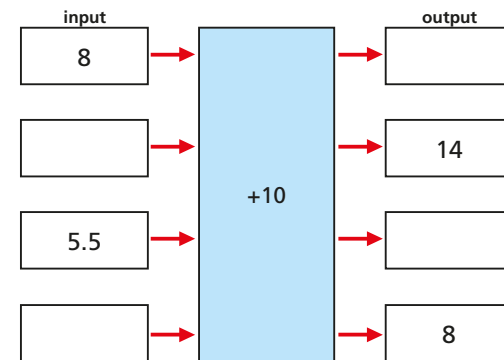
4 Calculate the inputs for the function machines.



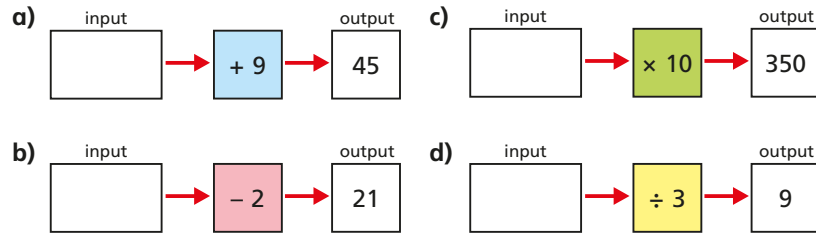
5 Write the missing functions in the function machines.



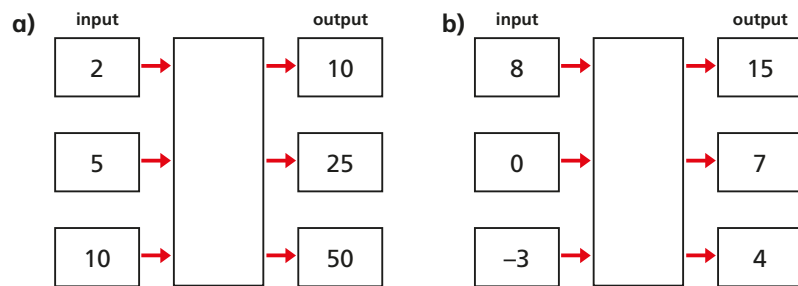
6 Calculate the missing inputs and outputs for the function machine.



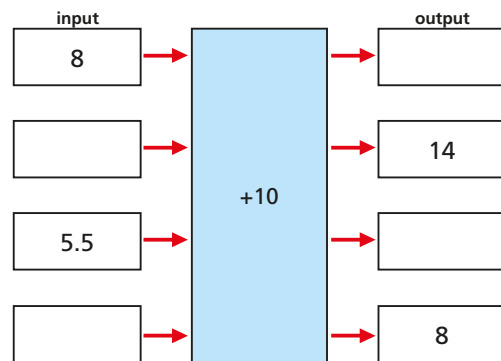
4 Calculate the inputs for the function machines.



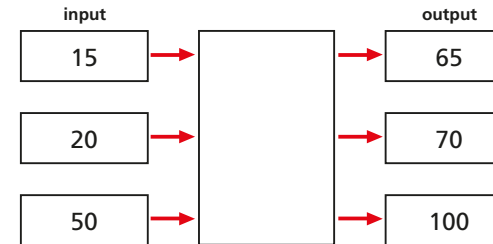
5 Write the missing functions in the function machines.



6 Calculate the missing inputs and outputs for the function machine.



7 Look at the function machine.



- a) What is the output, if the input is zero?
- b) What is the input, if the output is zero?

8 Here is a function machine.



The rule is add 9

The rule is multiply by 2.5

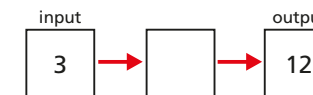


Who do you agree with?

Explain your answer.

9 In a function machine, if the input is 3 and the output is 12, what could the function be?

Write two different functions and complete the table of outputs for each function.



| | | | | | | |
|--------|----|---|---|----|----|-----|
| Input | 3 | 4 | 5 | 10 | 20 | 100 |
| Output | 12 | | | | | |