



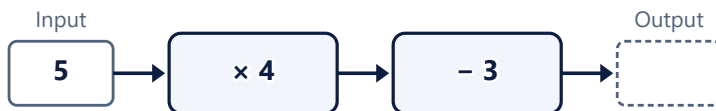
Name: _____

Date: _____

Score: _____ / 52

1 Here is a number machine.

- Work out the output when the input is 5.
- Work out the output when the input is 10.

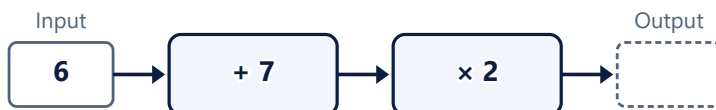


(2 marks)

Answer _____

2 Here is a number machine.

- Work out the output when the input is 6.
- Work out the output when the input is 3.5



(2 marks)

Answer _____

3 Here is a function machine.

input $\rightarrow \times 4 \rightarrow - 3 \rightarrow$ output

The input is 2.5. Work out the output.

(2 marks)

Answer _____

- 4 A bike hire company uses this rule.

Cost in pounds = $6 \times \text{number of hours} + 10$

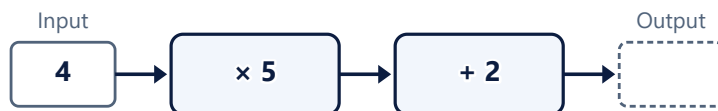
Sam hires a bike for 4 hours. Work out the cost.

(2 marks)

Answer _____

- 5 Here is a number machine.

- a. Work out the output when the input is 4.
b. Work out the input when the output is 37.



(3 marks)

Answer _____

- 6 Here is a function machine.

input $n \rightarrow \times 3 \rightarrow + 2 \rightarrow \text{output}$

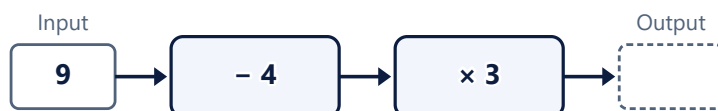
Write an expression for the output.

(2 marks)

Answer _____

- 7 Here is a number machine.

- a. Work out the output when the input is 9.
b. Work out the input when the output is 24.



(3 marks)

Answer _____

- 8 A bike hire company uses this rule.

Cost in pounds = $6 \times \text{number of hours} + 10$

Fatima pays £58. For how many hours did she hire the bike?

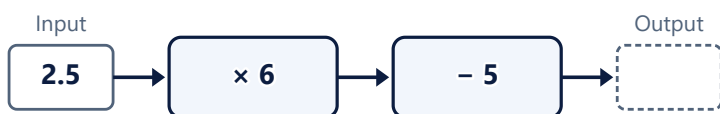
(3 marks)

Answer _____

- 9 Here is a number machine.

a. Work out the output when the input is 2.5

b. Work out the input when the output is 31.



(3 marks)

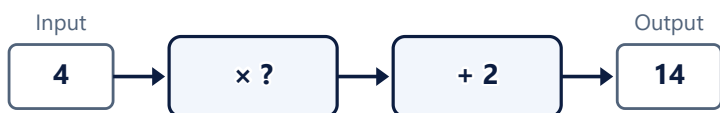
Answer _____

- 10 Here is a number machine with a missing number.

When the input is 4, the output is 14.

a. Work out the missing number in the machine.

b. Use the completed machine to work out the output when the input is 7.



(3 marks)

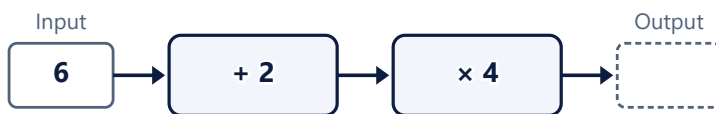
Answer _____

- 11** A plumber charges a fixed call-out fee of £40 plus £28 for each hour of work.
The plumber works for h hours on a job.
The total charge for the job is £ C .
Write a formula for C in terms of h .

(3 marks)

Answer _____

- 12** Here is a number machine.
- Work out the output when the input is 6.
 - Find the input when the output is 30.



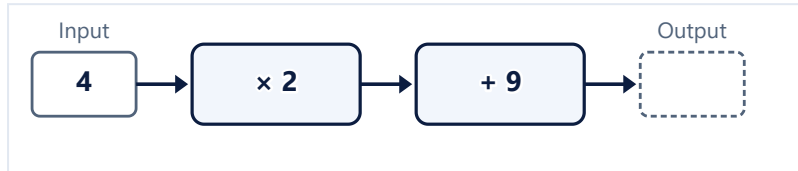
(3 marks)

Answer _____

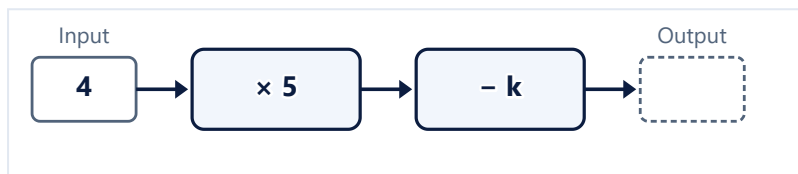
13

Here are two number machines.

- Work out the output of machine A when the input is 4.
- Work out the input of machine A when the output is 35.
- When the input is 4, machine B gives the same output as machine A.
Work out the value of k .



Machine A



Machine B

(4 marks)

Answer _____

14

A tool hire company uses this rule to work out the cost of hiring a floor sander.

Total cost = £45 × number of days + £60 deposit

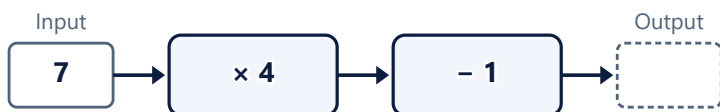
- Meera hires the sander for 7 days.
Work out her total cost.
- Liam's total cost is £555.
Work out the number of days Liam hires the sander for.

(4 marks)

Answer _____

15 Here is a number machine.

- Work out the output when the input is 7.
- Write down an expression for the output when the input is n .
- Find the input when the output is 55.



(4 marks)

Answer _____

16 A taxi journey costs a fixed charge of £3 plus £2 for each mile travelled.

A journey of m miles costs £ C in total.

- Write a formula for C in terms of m .
- A journey costs £25 in total.
Work out the number of miles travelled.

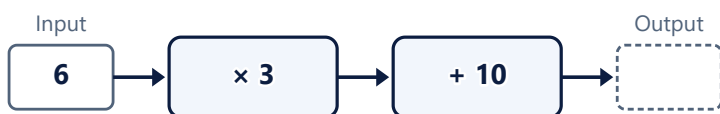
(4 marks)

Answer _____

17

Here is a number machine.

- Work out the output when the input is 6.
- Work out the input when the output is 4.
- For one value of the input, the output of the machine is equal to the input.
Work out this value.



(5 marks)

Answer

End of questions | Total 52 marks