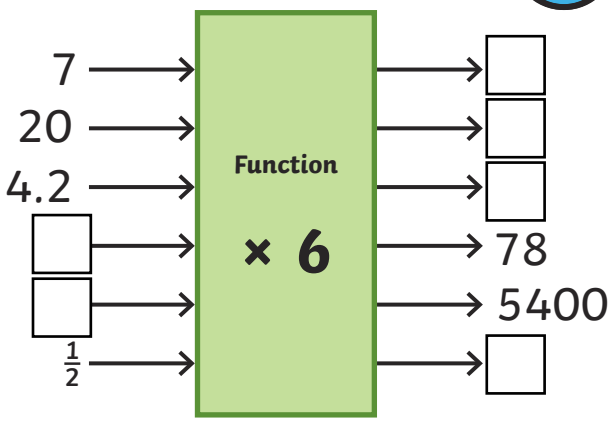
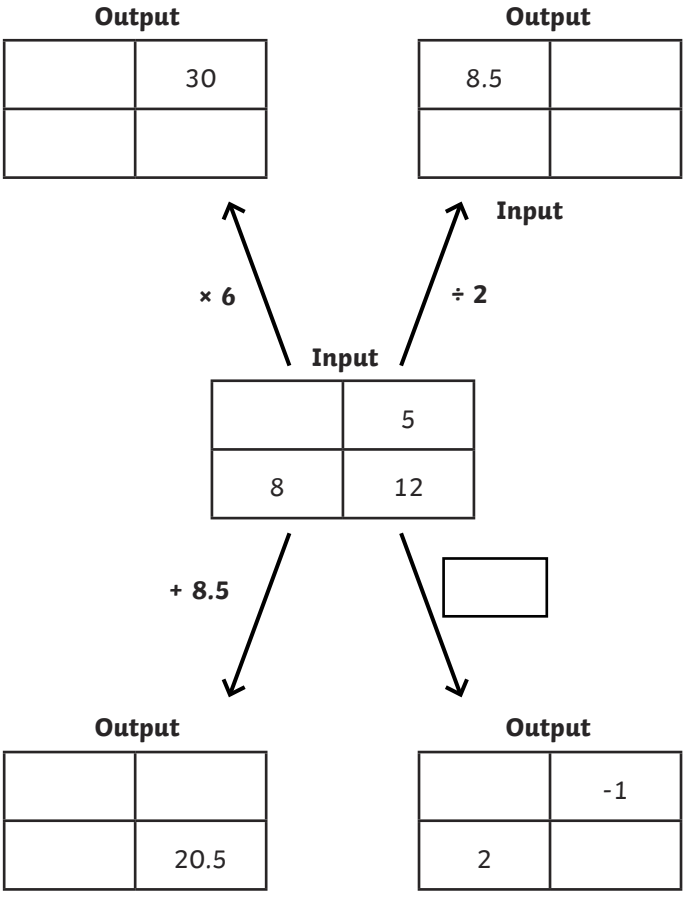
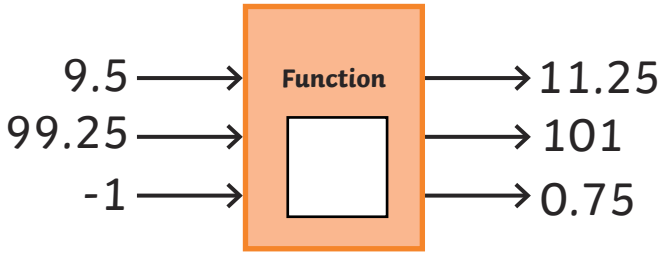
1) This is a one-step function machine. Give the missing inputs and outputs.



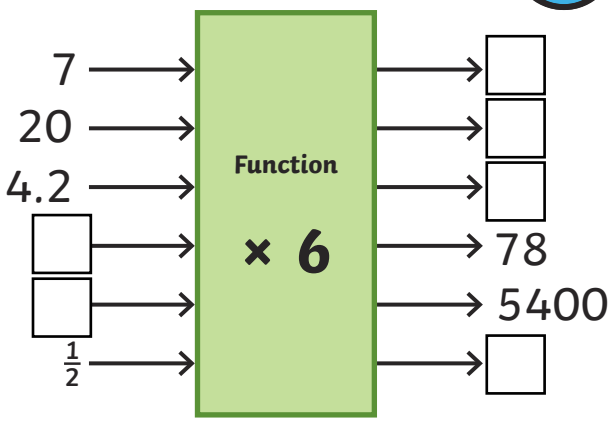
2) This one-step function machine has four different outputs. Find the missing outputs, inputs and function.



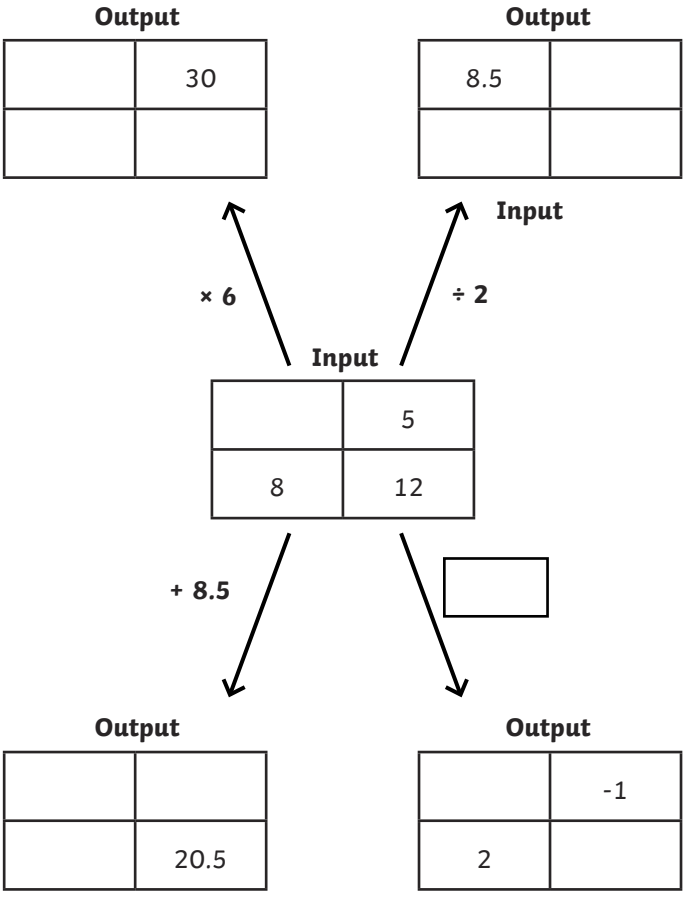
3) Give the missing function for this one-step machine.



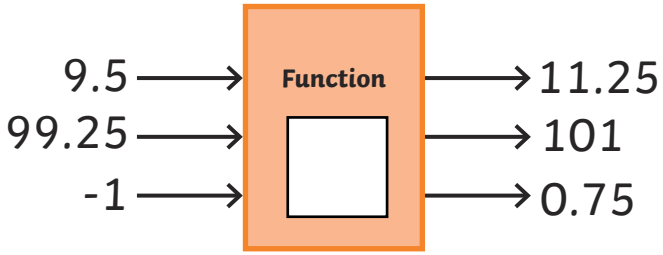
1) This is a one-step function machine. Give the missing inputs and outputs.



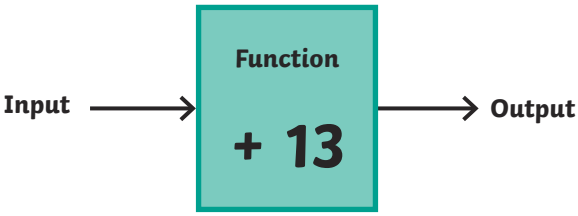
2) This one-step function machine has four different outputs.Find the missing outputs, inputs and function.



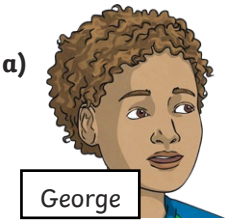
3) Give the missing function for this one-step machine.



1) Do you agree or disagree with each child's statement about this function machine? Give an example to support each of your answers.

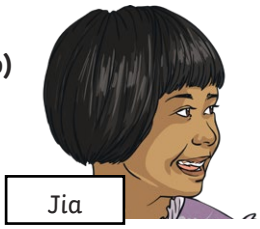


a)



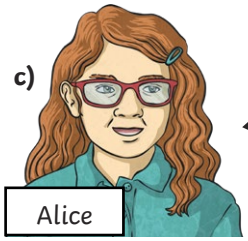
As 13 is a prime number, I think that every output will also be a prime number.

b)



As the function machine always adds, I think that the output will always be a positive number.

c)

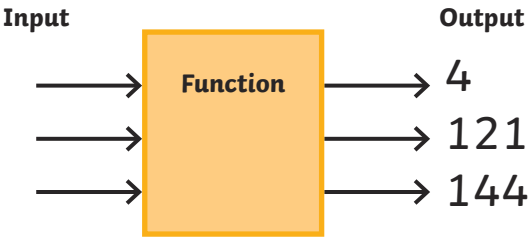


I think that if the input is a positive even number then the output will always be odd.

2) Look at the outputs from this function machine.

a) What could the function be?

b) Could the output ever be 169? Explain your answer.



1) Do you agree or disagree with each child's statement about this function machine? Give an example to support each of your answers.

Input
Function
+ 13
Output

a)

George

As 13 is a prime number, I think that every output will also be a prime number.

b)

Jia

As the function machine always adds, I think that the output will always be a positive number.

c)

Alice

I think that if the input is a positive even number then the output will always be odd.

2) Look at the outputs from this function machine.

a) What could the function be?

b) Could the output ever be 169? Explain your answer.

Input
Output
Function
4
121
144

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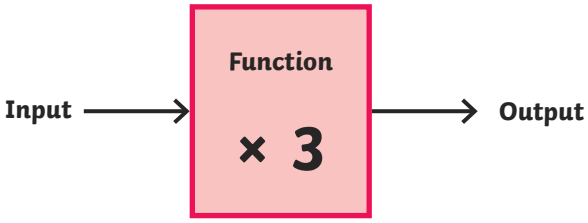
1) Ava and Ben both have numbers below 100. Look at the statements to find each child's number.



Ava's input number:

- is a multiple of 3;
- is a cube number;
- has a digit sum of 9.

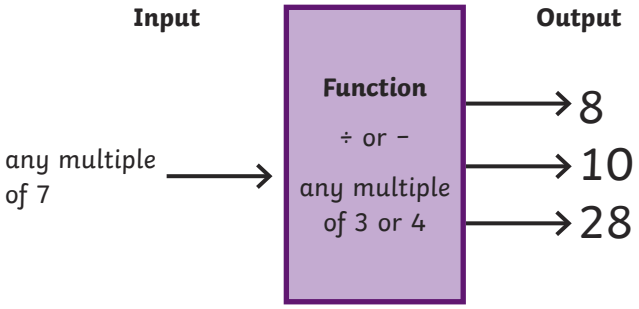
Ava's input is _____ and the output is _____.

Ben's output number:

- has factors of 4 and 6;
- is a square number;
- has a digit sum of 9.

Ben's input is _____ and the output is _____.

2) The function machine has put out three numbers. Following the rules of the function machine, find four different ways to make each output.



168 ÷ 21 = 8 _____ = 10 _____ = 28

1) Ava and Ben both have numbers below 100. Look at the statements to find each child's number.

Input → Function × 3 → Output

Ava's input number:

- is a multiple of 3;
- is a cube number;
- has a digit sum of 9.

Ava's input is _____ and the output is _____.

Ben's output number:

- has factors of 4 and 6;
- is a square number;
- has a digit sum of 9.

Ben's input is _____ and the output is _____.

2) The function machine has put out three numbers. Following the rules of the function machine, find four different ways to make each output.

Input: any multiple of 7 → Function: ÷ or − any multiple of 3 or 4 → Output: 8, 10, 28

168 ÷ 21 = 8 _____ = 10 _____ = 28

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