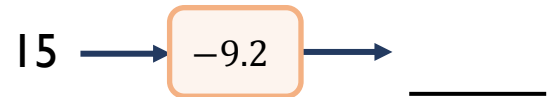
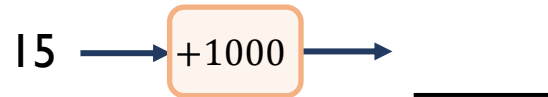
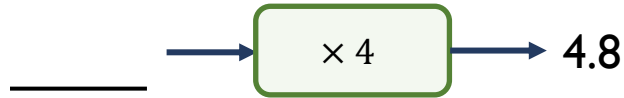


Name _____

- 1 Find the output in each of these function machines when the input is 15



- 2 Find the missing numbers for each of these function machines.



- 3 What is the **inverse** function of this machine?



- 4 Simplify these expressions.

$3 \times b$ _____

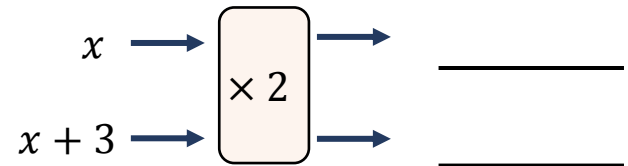
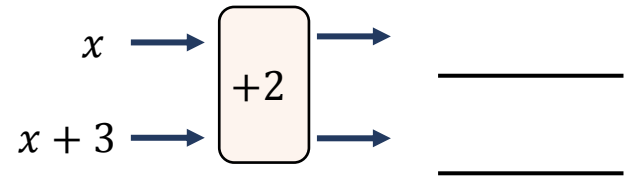
$b + b + b$ _____

$b \div 3$ _____



1 mark

- 5 Write expressions to show each output.



2 marks

- 6 Circle the expression that will have the largest value when $a = 4$

$8 - a$

$a - 8$

$\frac{8}{a}$

$\frac{a}{8}$



1 mark



2 marks

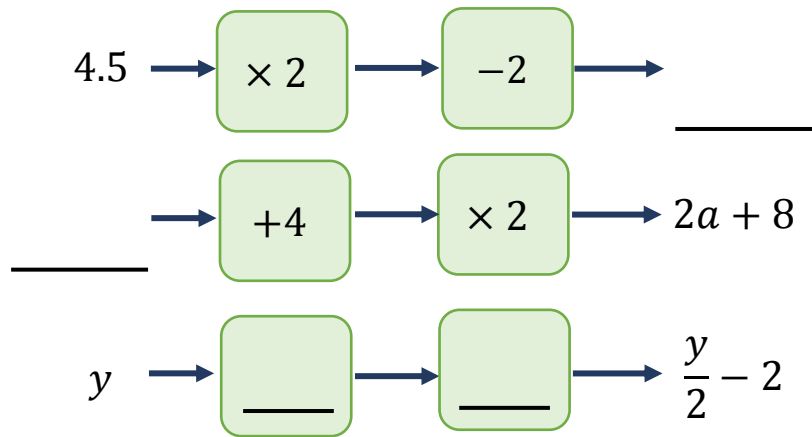


3 marks



1 mark

7 Complete the missing values.



8 $x = 9$ and $y = 1$

Work out the value of the expression $\frac{x - y}{2}$

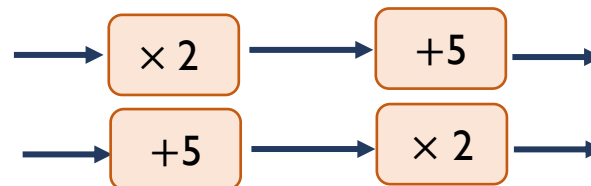
If the value of y increases, what will happen to the value of the expression?

9 Tick the equations that are straight line graphs.

$y = 6 - x$ $y = 5 + x^2$

$y = 3 + \frac{x}{2}$ $y = 2x + 3$

10 Mia says that given the same input, both function machines will always have the same output.



Give an example show Mia is **wrong**.

3 marks

1 mark

1 mark

1 mark

11 Find the first three terms of these sequences.

H

$5 + n$ _____, _____, _____

$5 + 2n$ _____, _____, _____

Describe a difference between the two sequences.

1 mark

2 marks

1 mark

Total marks