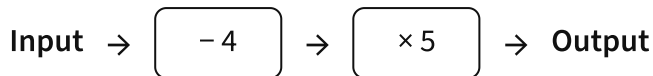


Expressions, Functions and Formulae

No calculator | 30 minutes | Total marks: 30

Name Class

1 Here is a function machine.



(a) Work out the output when the input is 10

Answer [1 mark]

(b) Work out the input when the output is 45

Answer [2 marks]

2 Simplify

(a) $7a - 3b + 2a + 5b$

Answer [2 marks]

(b) $3x \times 4y$

Answer [1 mark]

(c) $x^2 + 3x + 2x^2 - x$

Answer [2 marks]

3

Expand and simplify

(a) $3(2x + 5) - 2(x - 4)$

Answer [3 marks]

(b) $(x + 3)(x + 6)$

Answer [2 marks]

4

$x = -3 \quad y = 4$

Work out the value of

(a) $x^2 + y$

Answer [2 marks]

(b) $3y - 2x^2$

Answer [2 marks]

5A formula used in science is $V = IR$ (a) Work out the value of V when $I = 4$ and $R = 6$ $V =$ [1 mark](b) Work out the value of I when $V = 30$ and $R = 5$ $I =$ [2 marks]

6

A taxi charges £4 plus £2 for each mile.

(a) Write a formula for the cost, £ C , of a journey of m miles.

Answer [2 marks]

(b) Work out the cost of a journey of 9 miles.

Answer £ [1 mark]

7

Solve

(a) $3x + 4 = 19$

$x =$ [2 marks]

(b) $\frac{x}{2} - 3 = 4$

$x =$ [2 marks]

(c) $5x - 2 = 3x + 8$

$x =$ [3 marks]

Question	Topic	RAG
1	I can use a function machine and its inverse	
2	I can simplify expressions	
3	I can expand and simplify brackets	
4	I can substitute negative numbers into expressions with powers	
5	I can use a formula from another subject	
6	I can write and use a formula	
7	I can solve two step equations and equations with unknowns on both sides	