

Writing Expressions and Formulae

For AQA GCSE Mathematics (8300) • Foundation tier

Name _____

Total marks: **35**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

1 Write an expression for

(a) 5 more than n

[1 mark]

Answer _____

(b) 4 less than n

[1 mark]

Answer _____

(c) n multiplied by 6

[1 mark]

Answer _____

(d) n divided by 3

[1 mark]

Answer _____

- 2** Ali is x years old.
His sister is 3 years older than Ali.
His mother is 4 times as old as Ali.

(a) Write an expression, in terms of x , for his sister's age.

[1 mark]

Answer _____

(b) Write an expression, in terms of x , for his mother's age.

[1 mark]

Answer _____

- 3** A cinema ticket costs £9

The total cost of n cinema tickets is C pounds.
Circle the correct formula.

[1 mark]

$C = n + 9$

$C = 9n$

$C = \frac{n}{9}$

$n = 9C$

- 4** A pen costs p pence.
A pencil costs q pence.

(a) Write an expression for the total cost, in pence, of 4 pens and 3 pencils.

[1 mark]

Answer _____

- (b) Sara buys 4 pens and 3 pencils.
She pays with a £5 note.
Write an expression for her change, in pence.

[2 marks]

Answer _____

- 5** A company prints T-shirts for a school.
It charges a set-up fee of £30 plus £4 for each T-shirt it prints.
The cost of printing n T-shirts is £ C .

Write a formula for C in terms of n .

[2 marks]

Answer _____

- 6** An adult ticket for a zoo costs £ a .
A child ticket costs £ c .

Write a formula for T , the total cost in pounds of 2 adult tickets and 3 child tickets.

[2 marks]

Answer _____

- 7** An isosceles triangle has two sides of length $2y$ cm.
The third side has length $(y + 5)$ cm.
Work out an expression for the perimeter of the triangle.
Give your answer in its simplest form.

[2 marks]

Answer _____ cm

8 n is an integer.

(a) Write an expression for the next integer after n .

[1 mark]

Answer _____

(b) Write an expression for the sum of n and the next two integers.
Give your answer in its simplest form.

[2 marks]

Answer _____

9 Write an expression for

(a) the number of minutes in h hours

[1 mark]

Answer _____

(b) the number of pence in $£d$

[1 mark]

Answer _____

- 10** Nina saves $\pounds n$ each week for 4 weeks.
Her brother Tariq saves $\pounds 3$ more than Nina each week.
Tariq saves for 6 weeks.

Work out an expression, in terms of n , for the total amount they save altogether.
Give your answer in its simplest form.

[3 marks]

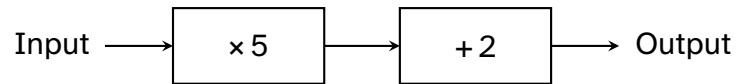
Answer $\pounds$ _____

- 11** A distance is m miles.
The same distance is k kilometres.
Use $5 \text{ miles} = 8 \text{ km}$ to write a formula for k in terms of m .

[2 marks]

Answer _____

12 Here is a number machine.



(a) Work out the output when the input is 6

[1 mark]

Answer _____

(b) The input is p and the output is q .
Work out a formula for q in terms of p .

[2 marks]

Answer _____

13 Sam has s sweets.
He gives 4 sweets to each of his 3 friends.
He then eats 2 sweets.

Write an expression for the number of sweets Sam has left.
Give your answer in its simplest form.

[2 marks]

Answer _____

- 14** Circle the expression for the mean of a , b and c .

[1 mark]

$$a + b + \frac{c}{3}$$

$$\frac{a + b + c}{3}$$

$$3(a + b + c)$$

$$\frac{abc}{3}$$

- 15** To hire a van costs £40 for each day plus 25p for each mile driven.

Write a formula for the total cost, C pounds, of hiring a van for d days and driving it m miles.

[3 marks]

Answer _____