

Algebraic Notation and Vocabulary

For Pearson Edexcel GCSE Mathematics (1MA1) • Foundation tier

Name _____

Total marks: **32**

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

1 Here are some words.

expression equation formula identity inequality term factor

Choose the correct word from the box to describe each of the following.

(a) $3x - 4 = 11$

.....
(1)

(b) $v = u + at$

.....
(1)

(c) $x + 4 > 7$

.....
(1)

(d) $2(y + 3) \equiv 2y + 6$

.....
(1)

(e) $5a^2 - 3b$

.....
(1)

(Total for Question 1 is 5 marks)

2 Simplify

(a) $m \times 6$

.....
(1)

(b) $a \times b \times c$

.....
(1)

(c) $k \div 5$

.....
(1)

(d) $y \times y \times y$

.....
(1)

(Total for Question 2 is 4 marks)

3 Write down an expression for

(a) 4 more than x

.....
(1)

(b) 3 times y

.....
(1)

(c) half of p

.....
(1)

(Total for Question 3 is 3 marks)

4 Here is an expression. $5a - 2b + 7 + a^2$

(a) Write down the number of terms in the expression.

.....
(1)

(b) Write down the coefficient of b .

.....
(1)

(c) Write down the constant term.

.....
(1)

(Total for Question 4 is 3 marks)

5 Here is a formula. $P = 6k + 9$

expression equation formula identity inequality term factor

Use words from the box to complete each sentence.

(a) In this formula, $6k$ is a

(1)

(b) k is a of $6k$

(1)

(Total for Question 5 is 2 marks)

6 Tick to show whether each is an expression, an equation or a formula.

	Expression	Equation	Formula
$3x + 2$	☐	☐	☐
$3x + 2 = 8$	☐	☐	☐
$A = \pi r^2$	☐	☐	☐
$V = lwh$	☐	☐	☐

(2)

(Total for Question 6 is 2 marks)

7 n is an integer.

(a) Explain why $2n$ is always an even number.

(1)

(b) Write down an expression, in terms of n , for an odd number.

.....
(1)

(Total for Question 7 is 2 marks)

8 Show that $4(x + 2) - 3 \equiv 4x + 5$

(2)

(Total for Question 8 is 2 marks)

9 Megan says,
' a^2 means $a \times 2$ '

Explain why Megan is wrong.

(1)

(Total for Question 9 is 1 mark)

10 Which has the greater value when $x = 5$, $3x$ or x^3 ?
You must show your working.

.....
(2)

(Total for Question 10 is 2 marks)

11 Here are four cards.

$$3x$$

$$x^2$$

$$x + 10$$

$$\frac{x}{2}$$

When $x = 5$, two of the cards have the same value.

Which two cards?

You must show your working.

..... and
(2)

(Total for Question 11 is 2 marks)

12 Tickets for a concert cost £8 each.

The total cost of n tickets is £ C .

(a) Write a formula for C in terms of n .

.....
(1)

(b) There is also a booking fee of £3 for each order.

Write an expression, in terms of n , for the total cost of an order of n tickets.

.....
(1)

(Total for Question 12 is 2 marks)

13 n is an integer.

(a) Write down, in terms of n , the next two integers after n .

.....
(1)

(b) Show that the sum of n and the next two integers is $3n + 3$

(1)

(Total for Question 13 is 2 marks)
