2.4 Introduction to Algebraic Notation: 30-minute Pack

Calculators not allowed · about 30 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Is -7m - 4a + 7 an expression, an equation or a formula? Give a reason.

(2)

2 Simplify $2b^2$ x 6bn.

(2)

3 A pen costs t pence. Write an expression for the cost of 7 pens and a 8p ruler. Write an expression for the result.

(2)

4 Simplify $6m^2$ x 8ma.

(2)

5 Simplify -9q - 3z - 3q + 4z.

(2)

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6 Simplify 3m x 4m.

(2)

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7 Here is an expression: 3a - 9z - 9

(a) How many terms does it have?

(b) Write down the coefficient of a.

(1)

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8 Calculate each value by substituting the given number into the expression.

(a) Find the value of 5x when x = 3. **(1)**

.....

(b) Find the value of 2a + 4 when a = 5. **(1)**

.....

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9 In the expression 6a - 8, identify the two terms.

(2)

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10 In 11p + 4, state the coefficient of p and the constant term.

(2)

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11 A rectangle has length (n + 4) and width n. Write an algebraic expression for its perimeter, then find its value when n = 5.



(4)

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Mark scheme · 2.4 Introduction to Algebraic Notation: 30-minute Pack

Question 1

Expression	B1
reason: no equals sign	B1

Answer: **Expression, because it has no equals sign**

Question 2

multiplies (or divides) the numbers correctly or the letters correctly	M1
$12b^3n$ cao	A1

Answer: **$12b^3n$**

Question 3

one correct operation applied to the letter, eg a product or a sum	M1
7t + 8 oe cao	A1

Answer: **7t + 8**

Question 4

multiplies (or divides) the numbers correctly or the letters correctly	M1
$48m^3a$ cao	A1

Answer: **$48m^3a$**

Question 5

collects at least one pair of like terms correctly	M1
-12q + z cao	A1

Answer: **-12q + z**

Question 6

multiplies (or divides) the numbers correctly or the letters correctly	M1
$12m^2$ cao	A1

Answer: **$12m^2$**

Question 7

(b) 3	B1

Answer: **(a) 3, (b) 3**

Question 8

(a) 15 cao	B1

(a) Answer: **15**

(b) 14 cao	B1

(b) Answer: **14**

Question 9

identifies both parts as separate terms	M1
6a and -8 cao	A1

Answer: **6a and -8**

Question 10

correctly identifies the coefficient	M1
coefficient 11, constant 4 cao	A1

Answer: **coefficient 11, constant 4**

Question 11

correct setup, e.g. 2((n + 4) + n)	M1
4n + 8 cao	A1
substitutes n = 5 correctly	M1
28 cao	A1

Answer: **4n + 8; when n = 5 the perimeter is 28**

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