FOUNDATION & HIGHER

SAME AT BOTH TIERS

Name ..... Class .....

A1: Algebraic notation

Use and interpret algebraic notation

20 marks · 25 minutes · Non-calculator

1) Simplify

(a) $3 \times a \times b \times 4$

.....

(1)

(b) $m \times m \times m$

.....

(1)

(c) $12x \div 4$

.....

(1)

[Question 1: 3 marks]

2) Write each of these using algebra.

(a) Multiply n by 7, then subtract 2

.....

(1)

(b) Add 5 to x, then square the result

.....

(1)

(c) Divide y by 3, then add 4

.....

(1)

[Question 2: 3 marks]

3) Here is an expression: $4x^2 - 7x + 9$

(a) What is the coefficient of x?

.....

(1)

(b) What is the constant term?

.....

(1)

[Question 3: 2 marks]

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4) Simplify

(a) $2a \times 3a^2$

.....

(1)

(b) $(2y)^2$

.....

(1)

[Question 4: 2 marks]

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5) Simplify

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

.....

(1)

(b) $4a^2 - a + 2a^2 + 3a$

.....

(1)

[Question 5: 2 marks]

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6) Write these without using $\times$ or $\div$ signs.

(a) $7 \times p \div q$

.....

(1)

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

.....

(1)

[Question 6: 2 marks]

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7) Simplify

(a) $\dfrac{6m^2n}{3mn}$

.....

(1)

(b) $3x \times 5y \times x$

.....

(1)

[Question 7: 2 marks]

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8) Cakes cost 85p each and a drink costs d pence. Write an expression for the cost, in pence, of c cakes and one drink.

..... pence

[Question 8: 1 marks]

9) Which is larger when $x = 3$: $2x^2$ or $(2x)^2$? Show your working.

.....

[Question 9: 2 marks]

10) Simplify $x^4 \times x^3$

.....

[Question 10: 1 marks]

End of paper – 20 marks in total

Answers and brief mark scheme

Q	Answer	Method / notes
1	(a) $12ab$ (b) m^3 (c) $3x$	B1 each.
2	(a) $7n - 2$ (b) $(x + 5)^2$ (c) $\frac{y}{3} + 4$	B1 each. (b) brackets needed.
3	(a) -7 (b) 9	B1 each. (a) sign needed.
4	(a) $6a^3$ (b) $4y^2$	B1 each.
5	(a) $3x + 4y$ (b) $6a^2 + 2a$	B1 each.
6	(a) $\frac{7p}{q}$ (b) a^2b^3	B1 each.
7	(a) $2m$ (b) $15x^2y$	B1 each.
8	$85c + d$	B1.
9	$(2x)^2$	18 and 36 (M1); $(2x)^2$ (A1).
10	x^7	B1.