Multiple choice questions - Algebraic notation, expanding and factorising

Year: Year 10 · 10

Question 1 $5a + 3b - 2a =$

- ◯ **A.** $3a + 3b$
- ◯ **B.** $7a + 3b$
- ◯ **C.** $6ab$
- ◯ **D.** $3a - 3b$

Question 2 $3(x - 4) =$

- ◯ **A.** $3x - 4$
- ◯ **B.** $3x - 12$
- ◯ **C.** $3x + 12$
- ◯ **D.** $x - 12$

Question 3 $(x + 2)(x + 3) =$

- ◯ **A.** $x^2 + 6$
- ◯ **B.** $x^2 + 5x + 6$
- ◯ **C.** $x^2 + 5x + 5$
- ◯ **D.** $2x + 5$

Question 4 $x^2 - 9$ factorises to

- ◯ **A.** $(x - 3)^2$
- ◯ **B.** $(x - 9)(x + 1)$
- ◯ **C.** $(x - 3)(x + 3)$
- ◯ **D.** $x(x - 9)$

Question 5 $4x + 8y =$

- ◯ **A.** $4(x + 8y)$
- ◯ **B.** $4(x + 2y)$
- ◯ **C.** $12xy$
- ◯ **D.** $2(2x + 8y)$

Question 6 $(x - 1)^2 =$

- ◯ **A.** $x^2 - 1$
- ◯ **B.** $x^2 + 1$
- ◯ **C.** $x^2 - 2x + 1$

- ◯ **D.** $x^2 - 2x - 1$

Question 7 The value of $2x^2$ when $x = -3$ is

- ◯ **A.** 18
- ◯ **B.** -18
- ◯ **C.** 36
- ◯ **D.** -36

Question 8 $x^2 + x - 12$ factorises to

- ◯ **A.** $(x + 4)(x - 3)$
- ◯ **B.** $(x - 4)(x + 3)$
- ◯ **C.** $(x + 6)(x - 2)$
- ◯ **D.** $(x - 12)(x + 1)$

Question 9 (Higher) $2x^2 + 5x + 2 =$

- ◯ **A.** $(2x + 1)(x + 2)$
- ◯ **B.** $(2x + 2)(x + 1)$
- ◯ **C.** $(x + 1)(x + 2)$
- ◯ **D.** $(2x - 1)(x - 2)$

Question 10 (Higher) $\dfrac{x^2 - 16}{x + 4} =$

- ◯ **A.** $x - 4$
- ◯ **B.** $x + 4$
- ◯ **C.** $x - 16$
- ◯ **D.** $\dfrac{x - 4}{x + 4}$

Answer grid - Algebraic notation, expanding and factorising

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Question	Answer	Explanation
1	**A**	$5a - 2a = 3a$.
2	**B**	Multiply both terms.
3	**B**	$x^2 + 3x + 2x + 6$.
4	**C**	Difference of two squares.
5	**B**	Highest common factor is 4.
6	**C**	$x^2 - x - x + 1$.
7	**A**	$(-3)^2 = 9$, $2 \times 9 = 18$.
8	**A**	Product -12, sum 1: 4 and -3.
9	**A**	Expand: $2x^2 + 4x + x + 2$.
10	**A**	$\frac{(x-4)(x+4)}{x+4}$.