

MCQs Questions for Class 9 Maths Chapter 4 Exploring Algebraic Identities

Question 1: What is the expansion of $(a+b)^2$?

Options:

- (A). $a^2 + b^2$
 - (B). $a^2 + 2ab + b^2$
 - (C). $a^2 - 2ab + b^2$
 - (D). $a^2 + ab + b^2$
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Question 2: Which identity is equal to $(a-b)^2$?

Options:

- (A). $a^2 - 2ab + b^2$
 - (B). $a^2 + 2ab + b^2$
 - (C). $a^2 - b^2$
 - (D). $a^2 + b^2$
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Question 3: The product of $(x+y)(x-y)$ is:

Options:

- (A). $x^2 + y^2$
 - (B). $x^2 - y^2$
 - (C). $x^2 + 2xy + y^2$
 - (D). $x^2 - 2xy + y^2$
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Question 4: Expand $(x+4)^2$.

Options:

- (A). $x^2 + 8x + 16$

- (B). $x^2 + 16$
(C). $x^2 - 8x + 16$
(D). $x^2 + 4x + 16$
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Question 5: What is the value of $(2a+b)^2$?

Options:

- (A). $4a^2 + 4ab + b^2$
(B). $2a^2 + b^2$
(C). $4a^2 + b^2$
(D). $4a^2 + 2ab + b^2$
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Question 6: Which identity gives the difference of squares?

Options:

- (A). $(a+b)^2$
(B). $(a-b)^2$
(C). $(a+b)(a-b)$
(D). $a+b$
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Question 7: Expand $(y-5)^2$.

Options:

- (A). $y^2 + 10y + 25$
(B). $y^2 - 25$
(C). $y^2 - 10y + 25$
(D). $y^2 + 5y + 25$
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Question 8: The expansion of $(3x-2)^2$ is:

Options:

- (A). $9x^2 - 12x + 4$

(B). $9x^2 + 12x + 4$

(C). $3x^2 - 4$

(D). $9x^2 - 4$

Question 9: What is the square of $6a$?

Options:

(A). $12a$

(B). $36a$

(C). $36a^2$

(D). $6a^2$

Question 10: Simplify $(p+3)(p-3)$.

Options:

(A). $p^2 + 9$

(B). $p^2 - 9$

(C). $p^2 + 6p + 9$

(D). $p^2 - 6p + 9$

Question 11: Expand $(a+2b)^2$.

Options:

(A). $a^2 + 2ab + 4b^2$

(B). $a^2 + 4ab + 4b^2$

(C). $a^2 - 4ab + 4b^2$

(D). $a^2 + 4b^2$

Question 12: Which of the following is a standard algebraic identity?

Options:

(A). $(a+b)^2 = a^2 + 2ab + b^2$

- (B). $a+b = ab$
(C). $a-b = a^2 - b^2$
(D). $a+b = a^2 + b^2$
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Question 13: Expand $(2x+5)^2$.

Options:

- (A). $4x^2 + 20x + 25$
(B). $4x^2 + 25$
(C). $2x^2 + 10x + 25$
(D). $4x^2 - 20x + 25$
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Question 14: The value of $(m+n)^2 - (m-n)^2$ is:

Options:

- (A). $2mn$
(B). $4mn$
(C). $m^2 + n^2$
(D). $m^2 - n^2$
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Question 15: Simplify $(x-7)(x+7)$.

Options:

- (A). $x^2 + 49$
(B). $x^2 - 49$
(C). $x^2 + 14x + 49$
(D). $x^2 - 14x + 49$
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Question 16: Expand $(4a-b)^2$.

Options:

- (A). $16a^2 - 8ab + b^2$

(B). $16a^2 + 8ab + b^2$

(C). $4a^2 - b^2$

(D). $16a^2 - b^2$

Question 17: Which expression is equal to $a^2 - b^2$?

Options:

(A). $(a+b)(a-b)$

(B). $(a+b)^2$

(C). $(a-b)^2$

(D). $a+b$

Question 18: What is the expansion of $(x+y+z)^2$?

Options:

(A). $x^2 + y^2 + z^2$

(B). $x^2 + y^2 + z^2 + 2xy + 2yz + 2zx$

(C). $x+y+z$

(D). $x^2 - y^2 - z^2$

Question 19: Expand $(5p+2q)^2$.

Options:

(A). $25p^2 + 20pq + 4q^2$

(B). $25p^2 + 4q^2$

(C). $10p^2 + 4q^2$

(D). $25p^2 - 20pq + 4q^2$

Question 20: The square of $(2m-3n)$ is:

Options:

(A). $4m^2 - 12mn + 9n^2$

(B). $4m^2 + 12mn + 9n^2$

(C). $2m^2 - 3n^2$

(D). $4m^2 - 9n^2$

Question 21: Which identity is used for finding the square of a trinomial?

Options:

(A). $(a+b+c)^2$

(B). $(a+b)^2$

(C). $(a-b)^2$

(D). $a^2 - b^2$

Question 22: Simplify $(9x+1)(9x-1)$.

Options:

(A). $81x^2 - 1$

(B). $81x^2 + 1$

(C). $18x + 1$

(D). $81x^2 - 18x + 1$

Question 23: Expand $(3a+4b)^2$.

Options:

(A). $9a^2 + 24ab + 16b^2$

(B). $9a^2 + 16b^2$

(C). $6a^2 + 8ab + 16b^2$

(D). $9a^2 - 24ab + 16b^2$

Question 24: The product of $(a-5)(a+5)$ is:

Options:

(A). $a^2 - 25$

- (B). $a^2 + 25$
 - (C). $a^2 - 10a + 25$
 - (D). $a^2 + 10a + 25$
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Question 25: What is the value of $(x-2y)^2$?

Options:

- (A). $x^2 - 4xy + 4y^2$
 - (B). $x^2 + 4xy + 4y^2$
 - (C). $x^2 - 4y^2$
 - (D). $x^2 + 2xy + y^2$
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Answers:

- 1. (B)
- 2. (A)
- 3. (B)
- 4. (A)
- 5. (A)
- 6. (C)
- 7. (C)
- 8. (A)
- 9. (C)
- 10. (B)
- 11. (B)
- 12. (A)
- 13. (A)
- 14. (B)
- 15. (B)

- 16. (A)
- 17. (A)
- 18. (B)
- 20. (A)
- 21. (A)
- 22. (A)
- 19. (A)
- 23. (A)
- 24. (A)
- 25. (A)

