



Class 9 Mathematics | Exploring Algebraic Identities

MCQ WORKSHEET • 15 questions • Choose one correct option • Suggested time: 25 minutes

1. Expand $(x+4)^2$.

- A. $x^2+8x+16$ B. x^2+16
C. $x^2-8x+16$ D. $x^2+4x+16$

2. Factorise x^2-49 .

- A. $(x-49)(x+1)$ B. $(x+7)^2$
C. $(x-7)(x+7)$ D. $(x-7)^2$

3. The value of 103^2-97^2 is:

- A. 1200 B. 600 C. 2000 D. 36

4. Which term completes $x^2+10x+ \underline{\hspace{1cm}}$ as a perfect square?

- A. 100 B. 10 C. 25 D. 5

5. If $a+b=9$ and $ab=14$, then a^2+b^2 is:

- A. 109 B. 53 C. 67 D. 81

6. The factorisation of $x^2+7x+12$ is:

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

7. For $x \neq 3$, $(x^2-9)/(x-3)$ equals:

- A. x^2+3 B. $x+3$ C. $x-3$ D. 1

8. Expand $(2x-3y)^2$.

- A. $4x^2-12xy+9y^2$ B. $4x^2+9y^2$
C. $2x^2-12xy+3y^2$ D. $4x^2-6xy+9y^2$

9. If $x-y=5$ and $xy=6$, then $(x+y)^2$ is:

- A. 49 B. 31 C. 25 D. 1

10. Factorise $4x^2-25y^2$.

- A. $(4x-25y)(x+y)$ B. $(4x-5y)(x+5y)$
C. $(2x-5y)^2$ D. $(2x-5y)(2x+5y)$

11. The value of 99×101 is:

- A. 9999 B. 10001 C. 10201 D. 9801

12. Which expression equals $(a+b)^2-(a-b)^2$?

- A. $4a^2$ B. $2a^2+2b^2$ C. $2ab$ D. $4ab$

13. A square of side $x+2$ has area exceeding x^2 by:

- A. $4x$ B. $2x+4$ C. $4x+4$ D. 4

14. For $x \neq -2$, $(x^2+5x+6)/(x+2)$ equals:

- A. $x+3$ B. $x+6$ C. $x+2$ D. $x-3$

15. If $a+b+c=0$, then $a^3+b^3+c^3$ equals:

- A. $3abc$ B. 0 C. abc D. $-3abc$

ANSWER KEY — check after completing all 15 questions

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