



Class 12 Mathematics | Determinants

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

1. The determinant of $\begin{bmatrix} 2 & 3 \\ 1 & 4 \end{bmatrix}$ is:

A. 11 B. 8 C. -5 D. 5

2. If two rows of a determinant are equal, its value is:

A. -1 B. 1 C. 0 D. Their sum

3. Interchanging two rows changes a determinant to:

A. Zero always B. Twice its value
C. The same value D. Its negative

4. For a 3×3 matrix A , $\det(2A)$ equals:

A. $2\det(A)$ B. $4\det(A)$ C. $6\det(A)$ D. $8\det(A)$

5. If $\det A = 5$, then $\det(A^T)$ equals:

A. $1/5$ B. 25 C. 5 D. -5

6. A square matrix is singular if its determinant is:

A. 0 B. Positive C. -1 D. 1

7. The determinant of diagonal matrix $\text{diag}(2,3,4)$ is:

A. 12 B. 24 C. 9 D. 6

8. If $\det A = 2$ and $\det B = 3$, $\det(AB)$ equals:

A. 5 B. 8 C. 1 D. 6

9. If $\det A = 4$, $\det(A^{-1})$ equals:

A. -4 B. 16 C. 4 D. $1/4$

10. The cofactor of a_{12} in $\begin{bmatrix} 2 & 3 \\ 5 & 7 \end{bmatrix}$ is:

A. 5 B. 7 C. -5 D. -3

11. The area of the triangle $(0,0), (4,0), (0,3)$ is:

A. 12 B. 3 C. 6 D. 7

12. If $\det \begin{bmatrix} x & 2 \\ 3 & 6 \end{bmatrix} = 0$, x equals:

A. 6 B. 2 C. 1 D. 3

13. For invertible A , $A \text{adj}(A)$ equals:

A. $\det(A)A$ B. $\det(A)I$ C. A^T D. I

14. The inverse of $\text{diag}(2,5)$ is:

A. $\text{diag}(5,2)$ B. $\text{diag}(2,5)$
C. $\text{diag}(1/2, 1/5)$ D. $\text{diag}(-2, -5)$

15. The equations $x+y=3$ and $2x-y=0$ have solution:

A. (0,3) B. (1,2) C. (3,0) D. (2,1)

ANSWER KEY — check after completing all 15 questions

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

Original exam-style practice • Reference notes: www.physics.guru/cbse-practice-papers/ • Not an official paper