



Class 12 Mathematics | Matrices

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

1. A matrix with 3 rows and 2 columns has order:

A. 1×6 B. 2×3 C. 3×2 D. 6×1

2. If A is 2×3 and B is 3×4 , AB has order:

A. 2×3 B. 2×4 C. 3×3 D. 4×2

3. If A is 2×3 , the order of A^T is:

A. 2×3 B. 2×2 C. 3×2 D. 3×3

4. For $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$, the (2,1) entry of A^T is:

A. 4 B. 2 C. 1 D. 3

5. If $\begin{bmatrix} x & 2 \\ 3 & 4 \end{bmatrix} = \begin{bmatrix} 5 & 2 \\ 3 & 4 \end{bmatrix}$, x equals:

A. 3 B. 5 C. 2 D. 4

6. For $A = \begin{bmatrix} 1 & 0 \\ 0 & 2 \end{bmatrix}$, A^2 equals:

A. $\begin{bmatrix} 2 & 0 \\ 0 & 4 \end{bmatrix}$ B. $\begin{bmatrix} 1 & 2 \\ 0 & 4 \end{bmatrix}$

C. $\begin{bmatrix} 1 & 0 \\ 0 & 4 \end{bmatrix}$ D. $\begin{bmatrix} 1 & 0 \\ 0 & 2 \end{bmatrix}$

7. Every diagonal entry of a real skew-symmetric matrix is:

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

8. Which identity is always true?

A. $(AB)^T = B^T A^T$ B. $(AB)^T = A^T B^T$ C. $AB = BA$ D. $A^2 = A$

9. For $A = \begin{bmatrix} 2 & 1 \\ 0 & 3 \end{bmatrix}$, $2A$ has (1,2) entry:

A. 2 B. 6 C. 4 D. 1

10. If A is square and I is the matching identity, AI equals:

A. 0 B. A^T C. I D. A

11. If A and B are 2×2 , $A+B$ is found by:

A. Adding row sums only
B. Multiplying row sums
C. Multiplying corresponding entries
D. Adding corresponding entries

12. For $A = \begin{bmatrix} 1 & 2 \\ 0 & 1 \end{bmatrix}$ and $B = \begin{bmatrix} 2 & 0 \\ 1 & 3 \end{bmatrix}$, $(AB)_{12}$ is:

A. 2 B. 6 C. 3 D. 0

13. A square matrix A is symmetric when:

A. $A^T = A$ B. $A^2 = 0$ C. $A = 0$ only D. $A^T = -A$

14. If $A = \begin{bmatrix} 0 & 1 \\ -1 & 0 \end{bmatrix}$, A^2 equals:

A. A B. -I C. 0 D. I

15. For any square A, $A+A^T$ is:

A. Always skew-symmetric
B. Symmetric
C. Always diagonal
D. Always zero

ANSWER KEY — check after completing all 15 questions

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