doubtnut
India's Number 1 Education App

MATHS

BOOKS - JMD MATHS (PUNJABI ENGLISH)

MATRICES

Exercise

1. If $\begin{bmatrix} 3y-x & -2x \\ 3 & 7 \end{bmatrix} = \begin{bmatrix} 5 & -2 \\ 3 & 7 \end{bmatrix}$, then find x and y

A. $2, 1$

B. $1, 2$

C. $2, 3$

D. $1, 3$

Answer: B

Watch Video Solution

2. If A = $\begin{bmatrix} 2 & 4 \\ 3 & 2 \end{bmatrix}$ and B = $\begin{bmatrix} 1 & 4 \\ -3 & 2 \end{bmatrix}$,then

$2A + 3B$ =

A. $\begin{bmatrix} 7 & 20 \\ -3 & 10 \end{bmatrix}$

B. $\begin{bmatrix} 7 & -20 \\ -3 & 10 \end{bmatrix}$

C. $\begin{bmatrix} -7 & 20 \\ -3 & 10 \end{bmatrix}$

D. $\begin{bmatrix} 7 & 20 \\ 3 & 10 \end{bmatrix}$

Answer: A

Watch Video Solution

3. Find x if A = $\begin{bmatrix} 2 & 3 & -1 \\ x & -5 & 0 \\ -1 & 0 & 7 \end{bmatrix}$ is symmetric matrix

A. -3

B. 3

C. 2

D. -2

Answer: B

Watch Video Solution

4. The number of all positive matrices of order

3 × 3 with each entry 0 or 1 is

A. 18

B. 512

C. 27

D. 64

Answer: B

Watch Video Solution

5. If A is 3×4 matrix and B is 4×3 matrix,then the order of AB is

A. 3×4

B. 4×3

C. 4×4

D. 3×3

Answer: D

 Watch Video Solution

6. If A is a $(x+2) \times (y-3)$ matrix and B is a 2×5 matrix AB is a 3×5,then values of x and y are

A. $5, 1$

B. $2, 3$

C. $1, 5$

D. $3, 2$

Answer: C

Watch Video Solution

7. If $\begin{bmatrix} 4 & 3 \\ x & 5 \end{bmatrix} = \begin{bmatrix} y & 3 \\ 1 & 5 \end{bmatrix}$,then $x^2 + y^2$ = _____

Watch Video Solution

8. If A is of order 3×4 and B is of order 4×2 ,then order of AB is _____

Watch Video Solution

9. If A is of order 3×2 and B is of order 3×4 ,then order of `(AB)' is _____

Watch Video Solution

10. If A = $\begin{bmatrix} 0 & a & 3 \\ 2 & b+2 & -1 \\ -3 & 1 & 0 \end{bmatrix}$ is skew symmetric, then $2a + b$ = _____

Watch Video Solution

11. If A,B are symmetric matrices of the same order,then $AB - BA$ is _____

Watch Video Solution

12. Matrices A and B will be inverse of each other if _____

Watch Video Solution

13. If A = $[1, 2, 3]$ and B = $\begin{bmatrix} 2 \\ 4 \\ 6 \end{bmatrix}$,then AB is _____

Watch Video Solution

14. State True/False: If A is a symmetric matrix ,then A' = -A

Watch Video Solution

15. State True/False: Every rectangular matrix can be expressed as sum of symmetric and skew symmetric matrices.

Watch Video Solution

16. State True/False: If A is of order 2×3 and B is of order 3×4,then AB is of order 2×4.

Watch Video Solution

17. If $(A = \begin{bmatrix} 2 & 3 \\ 4 & 5 \end{bmatrix})$, prove that A-A' is a skew symmetric matrix where (A^tau) denotes the transpose of matrix A

Watch Video Solution

18. IF $\left(A = \begin{bmatrix} 3 & -4 \\ -1 & 2 \end{bmatrix}\right)$, find a matrix B such thet $(AB = 1)$

Watch Video Solution

19. Construct a (2 times 2) matrix where ($a_{ij} = \frac{(i + (2)j)^2}{4}$)

Watch Video Solution

20. If $(A = \begin{bmatrix} 3 & -2 \\ 4 & -2 \end{bmatrix})$, find K such that $(A^2 = KA - 2I_2)$.

Watch Video Solution

21. Find x and y, if $(2\begin{bmatrix} 1 & 3 \\ 0 & x \end{bmatrix} + \begin{bmatrix} y & 0 \\ 1 & 2 \end{bmatrix} = \begin{bmatrix} 5 & 6 \\ 1 & 8 \end{bmatrix})$

Watch Video Solution

22. Show that the matrix B`AB) is symmetric or skew symmetric according as A is symmetric or skew symmetric.

Watch Video Solution

23. For the matrix $(A = \begin{bmatrix} -3 & 6 & 0 \\ 4 & -5 & 8 \\ 0 & -7 & -2 \end{bmatrix})$, find $(\frac{1}{2}(A - A'))$, where A' is the transpose of matrix A.

Watch Video Solution

24. Construct a (2×2) matrix where ($a_{ij} = \frac{3i - j}{2}$).

Watch Video Solution

25. If $A = \begin{bmatrix} i & 0 \\ 0 & -i \end{bmatrix}$ and $B = \begin{bmatrix} 0 & i \\ i & 0 \end{bmatrix}$, show that $AB \neq BA$.

Watch Video Solution

26. Solve for x and y, ($\begin{bmatrix} 3 & -4 \\ 1 & 2 \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 3 \\ 11 \end{bmatrix}$)

Watch Video Solution

27. If ($\begin{bmatrix} \cos x & \sin x \\ -\sin x & \cos x \end{bmatrix}$), find x, (`0

Watch Video Solution

28. $\frac{1+\cos\theta+\sin\theta}{1+\cos\theta-\sin\theta}=\frac{1+\sin\theta}{\cos\theta}$.

Watch Video Solution

29. Write the element (a_{23}) of $(a3 \times 3)$ matrix ($A = (a_i j)$), whose elements $(a_i j)$ are given by $(a_i j = \frac{|i - j|}{2})$

Watch Video Solution