

<Course Code:22103>: <Subject Code: BMS>: <Subject Name: Basic Mathematics>: <Matrices>:

<UO-1.3.2>: <Assessments>: <Formative>

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Assessment Type: Formative Assessments: Embedded questions in video

Set 1: Question No 1	Set 1: Question No 2	Set 1: Question No 3
State the order of the product matrix $A \times B$ if matrix A is of order 2×3 and matrix B is of order 3×3 .	State the order of the product matrix $B \times A$ if matrix A is of order 2×2 and matrix B is of order 3×3 .	State the order of transpose of matrix $\begin{bmatrix} 2 \\ 0 \\ -1 \end{bmatrix}$
Recall/ Remembering	Understanding	Application
a) 3×3	a) 2×2	a) 2×1
b) 2×2	b) 3×2	b) 1×2
c) 2×3	c) 3×3	c) 1×3
d) 3×2	d) product does not exist	d) 3×1
Ans: <c>	Ans: <d >	Ans: <c >

Set 2: Question No 1	Set 2: Question No 2	Set 2: Question No 3
<p>Which of the following is true in matrices?</p> <ol style="list-style-type: none"> 1. $A \times B = B \times A$ 2. $(A \times B)^t = B^t \times A^t$ 	<p>If $A = \begin{bmatrix} 1 & 0 \\ 1 & -1 \end{bmatrix}$ then $A^2 = ?$</p>	<p>If $A = \begin{bmatrix} 1 & 0 \\ -1 & 1 \end{bmatrix}, B = \begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \end{bmatrix}$ then to find a matrix 'X' such that $AX = B$, order of X should be</p>
Recall/ Remembering	Understanding	Understanding
a) Only 1	a) $\begin{bmatrix} 1 & 0 \\ 1 & 1 \end{bmatrix}$	a) 2×2
b) Only 2	b) $\begin{bmatrix} 1 & 0 \\ 2 & 1 \end{bmatrix}$	b) 2×3
c) Both	c) $\begin{bmatrix} 1 & 0 \\ 1 & -1 \end{bmatrix}$	c) 3×2
d) none	d) $\begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$	d) 3×3
Ans: 	Ans: <d>	Ans:

Assessment Type: Summative: End of CO: in LMS

Summative: Q 1	Summative: Q 2	Summative: Q 3	Summative: Q 4	Summative: Q 5
<p>If $A = \begin{bmatrix} 2 & -1 \\ 4 & 3 \end{bmatrix}$,</p> <p>$B = \begin{bmatrix} 3 & -2 \\ -1 & 4 \end{bmatrix}$, find AB</p>	<p>If $A = \begin{bmatrix} 2 & -1 \\ 4 & 3 \end{bmatrix}$,</p> <p>$B = \begin{bmatrix} 3 & -2 \\ -1 & 4 \end{bmatrix}$, find BA</p>	<p>If $A = \begin{bmatrix} 2 & -1 \\ 4 & 3 \end{bmatrix}$,</p> <p>Find A^2</p>	<p>If $A = \begin{bmatrix} 2 & -1 \\ 4 & 3 \end{bmatrix}$,</p> <p>$B = \begin{bmatrix} 3 & -2 \\ -1 & 4 \end{bmatrix}$, find $(AB)^T$</p>	<p>If $A = \begin{bmatrix} 2 & -1 \\ 4 & 3 \end{bmatrix}$,</p> <p>$B = \begin{bmatrix} 3 & -2 \\ -1 & 4 \end{bmatrix}$, find $B^T A^T$</p>
Recall/ Remembering	Understanding	Understanding	Understanding	Understanding
a) $\begin{bmatrix} 5 & -8 \\ 15 & 4 \end{bmatrix}$	a) $\begin{bmatrix} 5 & -8 \\ 15 & 4 \end{bmatrix}$	a) $\begin{bmatrix} 0 & -5 \\ -4 & 5 \end{bmatrix}$	a) $\begin{bmatrix} 5 & -8 \\ 15 & 4 \end{bmatrix}$	a) $\begin{bmatrix} 5 & -8 \\ 15 & 4 \end{bmatrix}$
b) $\begin{bmatrix} 7 & -8 \\ 9 & 4 \end{bmatrix}$	b) $\begin{bmatrix} 7 & -8 \\ 9 & 4 \end{bmatrix}$	b) $\begin{bmatrix} 0 & -5 \\ 20 & 5 \end{bmatrix}$	b) $\begin{bmatrix} 7 & -8 \\ 9 & 4 \end{bmatrix}$	b) $\begin{bmatrix} 7 & -8 \\ 9 & 4 \end{bmatrix}$
c) $\begin{bmatrix} 7 & 9 \\ -8 & 4 \end{bmatrix}$	c) $\begin{bmatrix} 7 & 9 \\ -8 & 4 \end{bmatrix}$	c) $\begin{bmatrix} 8 & -5 \\ 20 & 5 \end{bmatrix}$	c) $\begin{bmatrix} 7 & 9 \\ -8 & 4 \end{bmatrix}$	c) $\begin{bmatrix} 7 & 9 \\ -8 & 4 \end{bmatrix}$
d) $\begin{bmatrix} -2 & -9 \\ 14 & 13 \end{bmatrix}$	d) $\begin{bmatrix} -2 & -9 \\ 14 & 13 \end{bmatrix}$	d) $\begin{bmatrix} 4 & 1 \\ 16 & 9 \end{bmatrix}$	d) $\begin{bmatrix} -2 & -9 \\ 14 & 13 \end{bmatrix}$	d) $\begin{bmatrix} -2 & -9 \\ 14 & 13 \end{bmatrix}$
Ans: 	Ans: <d>	Ans: 	Ans: <c>	Ans: <c>

Assessment Type: Practice Worksheets: End of CO: in LMS/ downloadable PDF

A. If $A = \begin{bmatrix} 1 & 2 & 3 \\ 4 & 5 & 6 \end{bmatrix}$ and $B = \begin{bmatrix} 1 \\ 9 \\ 8 \end{bmatrix}$, find AB

B. If $\left\{ 3 \begin{bmatrix} 3 & 1 \\ 4 & 0 \\ 3 & -3 \end{bmatrix} - 2 \begin{bmatrix} 0 & 2 \\ -2 & 3 \\ -5 & 4 \end{bmatrix} \right\} \begin{bmatrix} -1 \\ 2 \end{bmatrix} = \begin{bmatrix} x \\ y \\ z \end{bmatrix}$,
find x, y, z

A. Answer Space

B. Answer Space

C. Find x and y satisfying the matrix equation

$$\begin{bmatrix} 1 & 2 \\ 3 & 2 \end{bmatrix} \begin{bmatrix} x & y & 3 \\ 3 & -1 & 2 \end{bmatrix} = \begin{bmatrix} 7 & 0 & 7 \\ 9 & 4 & 13 \end{bmatrix}$$

D. If $A = \begin{bmatrix} 2 & 5 \\ 6 & 7 \end{bmatrix}$, find $A^2 + 4A + 2I$

C. Answer Space

D. Answer Space

E. If $A = \begin{bmatrix} 0 & 1 & -1 \\ 4 & -3 & 4 \\ 3 & -3 & 4 \end{bmatrix}$ prove that $A^2 = I$

F. Find x & y if

$$\left\{ 4 \begin{bmatrix} 1 & 2 & 0 \\ 2 & -1 & 3 \end{bmatrix} - 2 \begin{bmatrix} 1 & 3 & -1 \\ 2 & -3 & 4 \end{bmatrix} \right\} \begin{bmatrix} 2 \\ 0 \\ -1 \end{bmatrix} = \begin{bmatrix} x \\ y \end{bmatrix}$$

E. Answer Space

F. Answer Space

G. If $A = \begin{bmatrix} 2 & 4 & 4 \\ 4 & 2 & 4 \\ 4 & 4 & 2 \end{bmatrix}$, show that $A^2 - 8A$ is a scalar matrix

H. If $A = \begin{bmatrix} 1 & -3 \\ -2 & -1 \end{bmatrix}$, $B = \begin{bmatrix} 1 & 0 & 1 \\ 2 & -1 & 3 \end{bmatrix}$,
verify that $(AB)' = B' A'$

G. Answer Space

H. Answer Space