

Board – Foundation	Class – 10 <sup>th</sup>	Topic – Operations on Matrices
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- If A is a  $3 \times 3$  matrix and B is a  $3 \times 2$  matrix, what is the order of the matrix AB ?
  - $3 \times 2$
  - $2 \times 3$
  - $3 \times 3$
  - $2 \times 2$
- The sum of two matrices is defined only if:
  - Both matrices are square
  - Both matrices have the same order
  - Both matrices are diagonal
  - Both matrices are  $3 \times 3$
- If  $A = \begin{bmatrix} 1 & 2 \\ 3 & 4 \end{bmatrix}$  and  $B = \begin{bmatrix} 5 & 6 \\ 7 & 8 \end{bmatrix}$ , what is  $A + B$  ?
  - $\begin{bmatrix} 6 & 8 \\ 10 & 12 \end{bmatrix}$
  - $\begin{bmatrix} 4 & 4 \\ 4 & 4 \end{bmatrix}$
  - $\begin{bmatrix} 5 & 8 \\ 10 & 12 \end{bmatrix}$
  - $\begin{bmatrix} 5 & 6 \\ 7 & 8 \end{bmatrix}$
- If A is a  $3 \times 3$  matrix and B is a  $3 \times 3$  matrix, which of the following is always true?
  - $AB = BA$
  - AB is defined
  - $A + B$  is not defined
  - A and B must be diagonal matrices
- If  $A = \begin{bmatrix} 2 & 0 & 1 \\ 1 & 3 & 2 \\ 0 & 1 & 1 \end{bmatrix}$  and  $B = \begin{bmatrix} 1 & 2 & 0 \\ 0 & 1 & 1 \\ 1 & 0 & 2 \end{bmatrix}$ , what is the element at position (2,3) in  $A + B$  ?
  - 2
  - 3
  - 4
  - 5



12. If  $A = \begin{bmatrix} 2 & 1 & 0 \\ 0 & 1 & 3 \\ 1 & 2 & 1 \end{bmatrix}$ , how many elements does A have?
- (a) 6 (b) 9  
(c) 3 (d) 12
13. If the order of matrix A is  $3 \times 4$  and the order of matrix B is  $4 \times 2$ , what is the order of AB ?
- (a)  $3 \times 2$  (b)  $4 \times 4$   
(c)  $4 \times 2$  (d)  $3 \times 4$
14. Which of the following is NOT a valid order for a matrix with 6 elements?
- (a)  $2 \times 3$  (b)  $3 \times 2$   
(c)  $1 \times 6$  (d)  $3 \times 3$
15. If  $A = \begin{bmatrix} a & b \\ c & d \end{bmatrix}$ , then the element in the first row and second column is:
- (a) a (b) b  
(c) c (d) d