

# **Mathematics1**

**Submitted  
by  
Rima Akter  
(TEX2001019010)  
19A(hena)**

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17. If  $A = \begin{bmatrix} -3 & 8 \\ 3 & 5 \end{bmatrix}$  And  $B = \begin{bmatrix} -3 & -8 \\ 3 & -5 \end{bmatrix}$  Find  $B-A$ .

Solution :  $B-A = \begin{bmatrix} -3 & -8 \\ 3 & -5 \end{bmatrix} - \begin{bmatrix} -3 & 8 \\ 3 & 5 \end{bmatrix}$

$$B-A = \begin{bmatrix} 6 & -16 \\ 0 & -10 \end{bmatrix} \text{ answer}$$

18. If  $B = \begin{bmatrix} 2 & -3 \\ -1 & 4 \end{bmatrix}$  find  $B^T$

Solution:  $B^T = \begin{bmatrix} 2 & -1 \\ -3 & 4 \end{bmatrix} \text{ answer}$

19. If  $B = \begin{bmatrix} 1 & 0 \\ 4 & 7 \end{bmatrix}$  Find  $2B$  And  $-3B$ .

Solution:  $2B = \begin{bmatrix} 2 & 0 \\ 8 & 14 \end{bmatrix}$

$-3B = \begin{bmatrix} -3 & 0 \\ -12 & -21 \end{bmatrix} \text{ answer}$

20. If  $A = \begin{bmatrix} 2 & 3 \\ 1 & 4 \end{bmatrix}$  and  $B = \begin{bmatrix} 5 & 1 \\ 0 & 3 \end{bmatrix}$  Find  $AB$  and  $BA$ . Is  $AB = BA$ ?

Solution:  $AB = \begin{bmatrix} 2 & 3 \\ 1 & 4 \end{bmatrix} \times \begin{bmatrix} 5 & 1 \\ 0 & 3 \end{bmatrix}$

$$= \begin{bmatrix} 10 & 11 \\ 15 & 13 \end{bmatrix}$$

$BA = \begin{bmatrix} 5 & 1 \\ 0 & 3 \end{bmatrix} \times \begin{bmatrix} 2 & 3 \\ 1 & 4 \end{bmatrix}$

$$= \begin{bmatrix} 11 & 14 \\ 3 & 12 \end{bmatrix} \text{ answer}$$

$AB \neq BA$