

Student Name: \_\_\_\_\_

Score: \_\_\_\_\_

## Multiplication of Matrices

Existence: S2

For each pair of matrices, find a)  $AB$  and b)  $BA$ . If a product is not possible to find, state 'not possible'.

$$A = \begin{bmatrix} -2 & 4 & 1 \\ 6 & 2 & 5 \end{bmatrix}, B = \begin{bmatrix} 3 & 4 \\ -5 & 6 \\ -2 & 7 \end{bmatrix}$$

$AB =$

$BA =$

$$A = \begin{bmatrix} 7 & -5 & 4 \\ -6 & 2 & 3 \end{bmatrix}, B = \begin{bmatrix} 1 & 2 & 3 \\ -4 & 5 & 6 \\ 7 & 8 & 9 \end{bmatrix}$$

$AB =$

$$A = \begin{bmatrix} 7 & 2 & 3 \\ -5 & 4 & 1 \end{bmatrix}, B = \begin{bmatrix} 6 \\ 3 \\ 4 \end{bmatrix}$$

$AB =$

$$A = \begin{bmatrix} 5 & -7 \\ 2 & -4 \\ 1 & 1 \end{bmatrix}, B = \begin{bmatrix} 4 & 2 & -1 \\ 7 & 6 & 9 \end{bmatrix}$$

$AB =$

$BA =$

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Answer key

## Multiplication of Matrices

Existence: S2

$$AB = \begin{bmatrix} -28 & 23 \\ -2 & 71 \end{bmatrix} \quad BA = \begin{bmatrix} 18 & 20 & 23 \\ 46 & -8 & 25 \\ 46 & 6 & 33 \end{bmatrix}$$

$$AB = \begin{bmatrix} 49 & 30 \\ 14 & 23 \end{bmatrix} \quad BA = \begin{bmatrix} -1 & 2 \\ -3 & 2 \end{bmatrix}$$

$$AB = \begin{bmatrix} 60 \\ -14 \end{bmatrix} \quad BA \text{ is 'r'}$$

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$$AB = \begin{bmatrix} -29 & -32 & -68 \\ -20 & -20 & -38 \\ 11 & 8 & 8 \end{bmatrix} \quad BA = \begin{bmatrix} 23 & -37 \\ 56 & -64 \end{bmatrix}$$