

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

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

## Multiplication of Matrices – Associative Property

Sheet 1

Prove that  $A(BC) = (AB)C$ .

$$A = \begin{bmatrix} 1 & 3 \\ 5 & 6 \end{bmatrix}, B = \begin{bmatrix} 6 & 4 & 1 \\ -7 & 5 & 2 \end{bmatrix}, C = \begin{bmatrix} -1 & 2 & 2 & 1 \\ 4 & -3 & 5 & 0 \\ 6 & -1 & 3 & 4 \end{bmatrix}$$

$$A = \begin{bmatrix} 2 & 4 & -3 & 4 \end{bmatrix}, B = \begin{bmatrix} 5 & 11 \\ -4 & 8 \\ 1 & 2 \\ 2 & -1 \end{bmatrix}, C = \begin{bmatrix} 9 & -5 & -4 \\ 5 & 2 & 1 \end{bmatrix}$$

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

$$A = \begin{bmatrix} 5 & -4 \\ 6 & 13 \end{bmatrix}, B = \begin{bmatrix} 3 & 2 & -4 & 3 \\ -7 & 1 & 1 & 5 \end{bmatrix}, C = \begin{bmatrix} 2 & 7 & 3 \\ 5 & -6 & 9 \\ 2 & 4 & -8 \\ 6 & 6 & 7 \end{bmatrix}$$

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

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

Answer key

## Multiplication of Matrices – Associative Property

Sheet 1

$$A(BC) = (AB)C = \begin{bmatrix} 133 & -94 & 86 & 13 \\ 314 & -191 & 277 & 56 \end{bmatrix}$$

$$A(BC) = (AB)C = [211 \quad 93 \quad 48]$$

$$A(BC) = (AB)C = \begin{bmatrix} -114 & -138 & -402 & -132 \\ 38 & 13 & 80 & 5 \\ 152 & 118 & 428 & 98 \end{bmatrix}$$

$$A(BC) = (AB)C = \begin{bmatrix} 38 & 139 & 340 \\ 455 & -207 & 675 \end{bmatrix}$$