Student Name: _____ Score:

Multiplication of Matrices – Distributive Property

Sheet 1

Prove that A(B+C) = AB + AC.

$A = \begin{bmatrix} 6 & 1 & 3 \\ -4 & 2 & 4 \end{bmatrix}$, $B = \begin{bmatrix} 3 & 2 & 5 \\ 6 & 7 & 1 \\ -2 & -2 & 8 \end{bmatrix}$, $C = \begin{bmatrix} 3 & 4 & 4 \\ -10 & 8 & 9 \\ 2 & 1 & 2 \end{bmatrix}$

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

$A = \begin{bmatrix} 1 & 3 & 4 \\ 5 & 0 & 8 \\ -7 & 3 & 4 \end{bmatrix}$, $B = \begin{bmatrix} 5 \\ -7 \\ 8 \end{bmatrix}$

$A = \begin{bmatrix} 3 & 6 \\ -7 & 11 \end{bmatrix}$, $B = \begin{bmatrix} 10 \\ -5 \end{bmatrix}$, $C = \begin{bmatrix} 6 \\ -8 \end{bmatrix}$

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Answer key

Multiplication of Matrices – Distributive Property

$$A(B+C) = AB + AC = \begin{bmatrix} 32 & 48 & 94 \\ -32 & 2 & 24 \end{bmatrix}$$

$$A(B+C) = AB + AC = \begin{bmatrix} -4 \\ 58 \end{bmatrix}$$

$$A(B+C) = AB + AC = \begin{bmatrix} 37 \\ 15 \\ -19 \end{bmatrix}$$

$$A(B+C) = AB + AC = \begin{bmatrix} -3 \\ -25 \end{bmatrix}$$