

Multiplication of Matrices – Distributive Property

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

$$A = \begin{bmatrix} 7 & 4 & 2 \\ 3 & 11 & 5 \\ -6 & -3 & 2 \end{bmatrix}, B = \begin{bmatrix} 1 & -2 & -3 \\ 5 & 1 & 4 \\ 6 & 3 & 1 \end{bmatrix}, C = \begin{bmatrix} 8 & 9 & 10 \\ -5 & 4 & -2 \\ 3 & 3 & 3 \end{bmatrix}$$

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

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

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

Student Name: _____

Score: _____

Answer key

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Sheet 2

$$A(B+C) = AB + AC = \begin{bmatrix} 81 & 81 & 65 \\ 72 & 106 & 63 \\ -36 & -45 & -40 \end{bmatrix}$$

$$A(B+C) = AB + AC = \begin{bmatrix} 53 & 7 & 17 \\ -8 & -9 & -5 \\ -2 & 2 & 2 \end{bmatrix}$$

$$A(B+C) = AB + AC = \begin{bmatrix} 7 & -9 & 17 \\ -5 & 2 & 2 \end{bmatrix}$$

$$A(B+C) = AB + AC = \begin{bmatrix} -45 & 6 \end{bmatrix}$$

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