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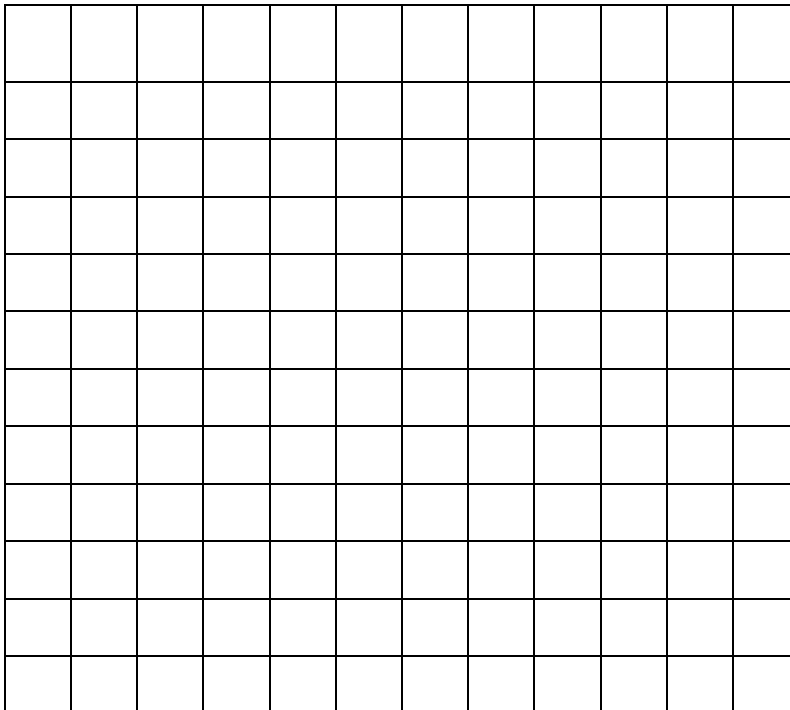
Advanced Algebra II – Assignment 4-4

The coordinates of Triangle MAE are M(-3,2), A(1,5) and (3,-6)

1. Show a matrix addition that would shift Triangle MAE 1 unit to the left and 3 units up. Include the matrices you add as well as the Sum Matrix.

2. Show a matrix multiplication that would reflect Triangle MAE across the line $y = x$. Include the matrices you multiply as well as the Product Matrix.

3. Show a matrix multiplication that would rotate Triangle MAE 180° . Sketch Triangle MAE as well as the resulting triangle when Triangle MAE is rotated.



7-185 Perform the following multiplications without using a calculator. If the product cannot be found, explain why.

$$\begin{array}{ccc} 2 & 3 & 7 \\ 5 & 1 & 0 \end{array} \begin{array}{c} 4 \\ 6 \\ 1 \end{array}$$

7-187 Perform each of the following matrix operations without using a calculator. If the operation is impossible, explain why.

a. $\begin{array}{ccc} 4 & 9 & 2 \\ 6 & 0 & 5 \end{array} \begin{array}{c} a \\ b \\ c \end{array}$

b. $2 \begin{array}{ccc} 4 & 9 & 2 \\ 6 & 0 & -5 \end{array} + \begin{array}{ccc} 1 & 0 & -3 \\ 0 & 4 & 1 \end{array}$

c. $\begin{array}{cc} a & b \\ c & d \end{array} \begin{array}{cc} e & f \end{array}$

d. $\begin{array}{cc} a & b \\ c & d \end{array} + \begin{array}{cc} e & f \end{array}$

7-200 Let A and B be the matrices defined below. Complete each of the following matrix operations.

$$A = \begin{array}{cc} 4 & -1 \\ 7 & 2 \end{array} \quad B = \begin{array}{cc} -5 & 0 \\ 3 & -8 \end{array}$$

a. $A - B$

b. $5A$

c. AB

d. BA