IA2 Name_____

Review 4.1-4.3

Show your work on a separate sheet of paper. You may use a calculator to find most of your answer.

Use the matrices A, B, and C to answer the following questions.

A= $\begin{bmatrix} -5 & 6 & 9 \\ 0 & 14 & -3 \end{bmatrix}$ B = $\begin{bmatrix} 1 & -4 \\ -8 & 13 \\ 2 & -7 \end{bmatrix}$ C = $\begin{bmatrix} 0 & -5 & 8 \\ 10 & 19 & 3 \end{bmatrix}$

1) What are the dimensions for B_____ 2) What are the dimensions for A _____

3) What is the entry at c_{22}_____ 4) What is the entry at b_{23}_____

If possible, find the indicated matrix.

5) –A 6) 2C 7) C – A 8) B – A

9) $\frac{1}{3}B$ 10) 2A – C 11) 3(C + A)

Multiply the following matrices. If it is not possible, write Does Not Exist.

12) $\begin{bmatrix} 3 & -2 \\ 4 & 1 \end{bmatrix}\begin{bmatrix} 0 & 2 \\ -3 & 5 \end{bmatrix}$ 13) $\begin{bmatrix} 8 \\ -2 \\ 4 \end{bmatrix}\begin{bmatrix} 2 & -3 & 7 \end{bmatrix}$ 14) $\begin{bmatrix} 6 & 7 \end{bmatrix}\begin{bmatrix} -8 \\ 0 \\ 2 \end{bmatrix}$

15) $\begin{bmatrix} 4 & -3 & 2 \\ 8 & 0 & 1 \end{bmatrix}\begin{bmatrix} 5 \\ -2 \\ -4 \end{bmatrix}$ 16) $\begin{bmatrix} 5 & 2 \end{bmatrix}\begin{bmatrix} 3 & 7 \end{bmatrix}$ 17) $\begin{bmatrix} -5 & 2 \\ 4 & 9 \\ -6 & -7 \end{bmatrix}\begin{bmatrix} 4 & 0 \\ 1 & -1 \end{bmatrix}$

Find the determinant of the following matrices. *Show your work by hand*. Tell whether the matrix has an inverse.

18) $\begin{bmatrix} -2 & 4 \\ 6 & -8 \end{bmatrix}$ 19) $\begin{bmatrix} 1 & 4 \\ 2 & 7 \end{bmatrix}$ 20) $\begin{bmatrix} 6 & 9 \\ 4 & 6 \end{bmatrix}$ 21) $\begin{bmatrix} -2 & -5 \\ 2 & -4 \end{bmatrix}$

Tell whether the two matrices are inverses of each other. Show your work to explain your answer.

22) $\begin{bmatrix} -4 & 2 \\ 6 & -8 \end{bmatrix}, \begin{bmatrix} -\frac{2}{5} & -\frac{1}{10} \\ -\frac{3}{10} & -\frac{1}{5} \end{bmatrix}$ 23) $\begin{bmatrix} 1 & 5 \\ 2 & 8 \end{bmatrix}, \begin{bmatrix} 8 & -5 \\ -2 & 1 \end{bmatrix}$ 24) $\begin{bmatrix} 3 & -2 \\ 4 & 2 \end{bmatrix}, \begin{bmatrix} 1 & 1 \\ -2 & -\frac{3}{2} \end{bmatrix}$

Find the inverse of the matrix. If it doesn't have an inverse, write *No Inverse*.

25) $\begin{bmatrix} 4 & 5 \\ 2 & 2 \end{bmatrix}$ 26) $\begin{bmatrix} -3 & 1 \\ 6 & 2 \end{bmatrix}$ 27) $\begin{bmatrix} -8 & 4 \\ -6 & 3 \end{bmatrix}$

28) $\begin{bmatrix} \frac{3}{4} & \frac{1}{2} \\ \frac{5}{6} & \frac{1}{3} \end{bmatrix}$ 29) $\begin{bmatrix} 10 & 9 \\ 9 & 8 \end{bmatrix}$ 30) $\begin{bmatrix} -8 & 4 \\ 4 & -2 \end{bmatrix}$ 31) $\begin{bmatrix} 2 & -10 \\ -1 & 10 \end{bmatrix}$