MEEG 4703 Quiz #3

1. (10 pts) For the matrix **A** shown, determine $\mathbf{A}^{-1}$ via the use of $\det \mathbf{A}$ and $\operatorname{adj} \mathbf{A}$.

$$\mathbf{A} = \begin{bmatrix} 2 & 2 & 0 \\ -2 & 1 & 1 \\ 3 & 0 & 1 \end{bmatrix}$$

2. (10 pts) For the matrix **B** shown, determine $\mathbf{B}^{-1}$ using method of successive transformations of *rows*.

$$\mathbf{B} = \begin{bmatrix} 3 & 0 & 1 \\ -14 & 1 & -4 \\ 20 & -2 & 5 \end{bmatrix} \qquad \mathbf{C} = \begin{bmatrix} 2 & -1 & 7 \\ -3 & 1 & -9 \\ 4 & -1 & 12 \end{bmatrix}$$

3. (10 pts) For the matrix **C** shown, determine $\mathbf{C}^{-1}$ using method of successive transformations of *columns*.

$$\mathbf{A}^{-1} = \frac{1}{12} \begin{bmatrix} 1 & -2 & 2 \\ 5 & 2 & -2 \\ -3 & 6 & 6 \end{bmatrix}$$

$$\mathbf{B}^{-1} = \begin{bmatrix} 3 & 2 & 1 \\ 10 & 5 & 2 \\ -8 & -6 & -3 \end{bmatrix} \qquad \mathbf{C}^{-1} = \begin{bmatrix} -3 & -5 & -2 \\ 0 & 4 & 3 \\ 1 & 2 & 1 \end{bmatrix}$$