MA2071 Linear Algebra
C Term, Sections C01-C04
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PRACTICE ONLY – DO NOT HAND IN

20 minutes

Linear Algebra Quiz 4

1.) Compute B^{-1} and C^{-1} for the following matrices. Show your process, but you do not need to annotate your individual row operations.

$$B = \begin{bmatrix} 1 & 0 & -2 \\ 1 & 1 & 1 \\ 1 & 0 & -1 \end{bmatrix}, \qquad C = \begin{bmatrix} 0 & 0 & 1 & 1 \\ 0 & 1 & 0 & -4 \\ 0 & 0 & 0 & -1 \\ 1 & 0 & 3 & 3 \end{bmatrix}.$$

2.) If

$$A = \begin{bmatrix} 1 & -3 & 0 & 1 & 1 & 4 \\ 1 & 0 & 1 & -1 & -1 & 2 \\ 0 & 1 & -2 & 4 & 3 & 1 \end{bmatrix}, \qquad MA = \begin{bmatrix} 0 & -7 & 0 & 0 & 1 & 3 \\ 1 & 4 & 0 & 1 & 0 & 1 \\ 0 & -11 & 1 & -2 & 0 & 4 \end{bmatrix}$$

then find the matrix M.
[HINT: The product MA contains each column of the 3×3 identity matrix.]