Quiz 4

MA 262
Artur's Class

February 14, 2012

Problem 1

Put

$$B = \begin{pmatrix} 0 & 1 \\ 1 & 0 \end{pmatrix}, \quad C = \begin{pmatrix} 1 & 0 \\ 0 & -1 \end{pmatrix}.$$

Compute the commutator $[B, C] := BC - CB$.

Problem 2

Put

$$A = \begin{pmatrix} 3 & -1 \\ -5 & -1 \end{pmatrix}.$$

Compute A^2.

Problem 3

With A as above, what is $A^2 \cdot A - A \cdot A^2$?

Problem 4

Compute the reduced row echelon from (RREF) of the following matrix.

$$M = \begin{pmatrix} 2 & -1 \\ 3 & 2 \\ 2 & 5 \end{pmatrix}.$$

What is its rank?