

E.M.U. - FACULTY OF ARTS AND SCIENCES
DEPARTMENT OF MATHEMATICS

MATH 106-- LINEAR ALGEBRA-- Quiz 1
18th March 2011

Duration: 50 minutes.

N/Surname;	Student no;	Signature;
Group;	Total:	

Q1) a-) Find a matrix $A = \begin{pmatrix} 1 & x & z \\ 0 & 1 & y \\ 0 & 0 & 1 \end{pmatrix}$ such that

$$A^2 + \begin{pmatrix} 0 & -1 & 0 \\ 0 & 0 & -1 \\ 0 & 0 & 0 \end{pmatrix} = I_3$$

b-) Let $A = \begin{pmatrix} 3 & 0 \\ -1 & 2 \end{pmatrix}$. Express A as a product of elementary matrices.

Q2) What conditions must the b_i 's satisfy for the system below to be consistent?

$$\begin{aligned}x_1 - 2x_2 - x_3 &= b_1 \\-4x_1 + 5x_2 + 2x_3 &= b_2 \\-4x_1 + 7x_2 + 4x_3 &= b_3\end{aligned}$$