

MATH 1210 Summer 2013 Quiz 5

Surname: _____

Given Name: _____

Student ID: _____

1. Determine whether the following vectors are linearly independent or linearly dependent. Justify your answers.

[2] (a) $\langle 1, 2, 3 \rangle, \langle 2, 2, -3 \rangle, \langle 1, 3, 9 \rangle, \langle -1, 5, -2 \rangle$

[6] (b) $\langle 1, 0, 3, 0 \rangle, \langle 0, 2, 0, 0 \rangle, \langle 1, 3, 0, 1 \rangle$

[6] 2. Given that $\begin{vmatrix} a & b & c \\ 1 & 2 & 3 \\ d & e & f \end{vmatrix} = 4$, find $\begin{vmatrix} a-2 & b-4 & c-6 \\ 2d & 2e & 2f \\ -3 & -6 & -9 \end{vmatrix}$

[6] 3. Find the inverse of the following matrix provided it exists.

$$\begin{bmatrix} 1 & 3 & 0 \\ 0 & 0 & 3 \\ 2 & 7 & 0 \end{bmatrix}$$