Dawson College: **Linear Algebra**: 201-105-DW-S04: Fall 2009

Name: _____
Student ID: _____

Quiz 4

This quiz is graded out of 10 marks. No books, calculators, notes or cell phones are allowed. You must show all your work, the correct answer is worth 1 mark the remaining marks are given for the work. If you need more space for your answer use the back of the page.

Question 1. Consider the matrix:

$$A=\begin{bmatrix} a & b & c \\ d & e & f \\ g & h & i \end{bmatrix}, B=\begin{bmatrix} j & k & l \\ m & n & o \\ p & q & r \end{bmatrix}, C=\begin{bmatrix} 2 & 1 & -2 & 1 & 0 \\ 3 & 2 & 1 & 0 & 0 \\ 0 & 0 & 1 & -2 & 1 \\ 0 & 0 & 0 & 3 & 3 \\ 0 & 0 & 0 & 1 & 2 \end{bmatrix}$$

a. *(3 marks)* If $\det(A)=-9$ and $\det(B)=\frac{1}{2}$ then compute $\det((2A)^t B^2(3AB)^{-1})$.

b. *(3 marks)* If $\det(A)=-9$, compute

$$\det\left(\begin{bmatrix} 2a & 2b & 2c \\ 4g & 4h & 4i \\ d+g & e+h & f+i \end{bmatrix}\right)$$

c. *(4 marks)* Compute $\det(C)$.