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:

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

a. *(3 marks)* If $\det(A)=-\frac{1}{3}$ and $\det(B)=5$ then compute $\det((4AB)^{-1}(2A)^tB^3)$.

b. *(3 marks)* If $\det(A)=-\frac{1}{3}$, compute

$$\det\left(\begin{bmatrix} 3g & 3h & 3i \\ 4d & 4e & 4f \\ a+g & b+h & c+i \end{bmatrix}\right)$$

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