Name: _____
Student ID: _____

Quiz 6

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. §2.2 #27 *(5 marks)* Evaluate the determinant

$$\begin{vmatrix} -3a & -3b & -3c \\ d & e & f \\ g-4d & h-4e & i-4f \end{vmatrix}$$

given that

$$\begin{vmatrix} a & b & c \\ d & e & f \\ g & h & i \end{vmatrix} = -6$$

Question 2. §2.3 #24 *(3 marks)* Solve by Cramer's rule

$$\begin{array}{rrrrr} 7x_1 & - & 2x_2 & = & 3 \\ 3x_1 & + & x_2 & = & 5 \end{array}$$

Question 3. §2.3 #39 *(2 marks)* Show that if A is a square matrix, then $\det(A^T A) = \det(AA^T)$.