Name: _____

Student ID: _____

Quiz 7

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. *(5 marks)* If A, B are 3×3 matrices, $\det(2A) = -24$ and $\det(B) = 3$ then find

$$\det((3AB)^{-1}(AB)^t A^2 B^3).$$

(show every step)

Question 2. *(3 marks)* Show that if A, B are invertable matrices then AB is invertible.

Question 3. *(2 marks)* If $\mathbf{u} = (2,3,-2)$, $\mathbf{v} = (1,0,-2)$ and $\mathbf{w} = (1,1,1)$ then compute

$$-3(\mathbf{u} - 2\mathbf{v}) + 4\mathbf{w}$$