Name: _____
Student ID: _____

Quiz 8

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 marks)* §3.1 #TF a) Determine whether the statement is true or false, and justify your answer. Two equivalent vectors must have the same initial point.

Question 2. *(3 marks)* §3.1 #25 Let $\vec{u} = (1, -1, 3, 5)$ and $\vec{v} = (2, 1, 0, -3)$. Find scalars a and b so that $a\vec{u} + b\vec{v} = (1, -4, 9, 18)$.

Question 3. *(2 marks)* §3.2 #TF e) If $||\vec{u}|| = 2, ||\vec{v}|| = 1$ and $\vec{u} \cdot \vec{v} = 1$, then the angles between $\vec{u}$ and $\vec{v}$ is $\frac{\pi}{3}$ radians.

Question 4. *(2 marks)* §3.2 #27 Le $p_0 = (x_0, y_0, z_0)$ and $p = (x, y, z)$ Describe the set of all points (x, y, z) for which $||p - p_0|| = 1$.

Question 5. *(1 mark)* §3.2 #19a Find a unit vector that has the same direction as the given vector.

$(-4, -3)$