

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. Let $A = (1, 2, 0)$, $B = (0, -2, 3)$, $P = (1, 1, -1)$, $\mathbf{u} = (3, -1, 2)$ and $\mathbf{v} = (4, 1, -3)$.

- a. (2 marks) Find the angle between \mathbf{u} and \mathbf{v} .
- b. (2 marks) Find a unit vector orthogonal to both \mathbf{u} and \mathbf{v}
- c. (6 marks) Using projections find the distance from point P to the line that passes through the points A and B .