Name: _____

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. §3.2 #15 *(3 marks)* Suppose that a vector $\vec{a}$ in the xy-plane has a length of 9 units and points in a direction that is 120° counterclockwise from the positive x-axis, and a vector $\vec{b}$ in that plane has a length of 5 units and points in the positive y-direction. Find $\vec{a} \cdot \vec{b}$.

Question 2. §3.3 #33 *(4 marks)* Using projections find the distance between the point and the plane. $(3,\ 1,\ -2)$; $x+2y-2z=4$

Question 3. #4.4.9 *(3 marks)* Determine the point of intersections (if any) for the pair of lines. $\vec{x} = (3,4,5) + t(1,1,1)$, $t \in \mathbb{R}$ and $\vec{x} = (2,4,1) + s(2,3,-2)$, $s \in \mathbb{R}$