Your Name:_____ Signature:_____

TA Name:_____ Drill Time:_____

Quiz 1

Math 2574: Calculus III

Instructions: CLEARLY SHOW ALL YOUR WORK.

1. **[2 points]** Find a vector of length 6 in the same direction as $\mathbf{v} = \langle 2, \sqrt{2}, \sqrt{3} \rangle$.

2. **[3 points]** Give an example of a vector that is orthogonal to $\mathbf{v} = \langle 3, -1 \rangle$. Can you give another (different from the first one) example of a vector orthogonal to $\mathbf{v}$?

3. **[5 pts]** Find the orthogonal projection, $\mathbf{proj_v u}$, of the vector $\mathbf{u} = \langle -1, 8 \rangle$ onto the vector $\mathbf{v} = \langle -2, 1 \rangle$.