Quiz 1   Calculus 3   9/11/2006

Each problem is worth 5 points. Clear and complete justification is required for full credit.

Use the vectors $\vec{u} = 3\vec{i} + 2\vec{j} - \vec{k}$ and $\vec{v} = -2\vec{i} + \vec{j} + 2\vec{k}$ for the following problems:

1. Find $\|\vec{u}\|$.

2. Find a unit vector in the direction of $\vec{v}$.

3. Find $\vec{u} \cdot \vec{v}$.

4. Find the angle between $\vec{u}$ and $\vec{v}$.