

**Quiz 2      Calculus 3      9/3/2004**

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