

**Quiz 1      Calculus 3      8/26/2009**

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

1. Suppose  $\mathbf{a} = 3\mathbf{i} - 4\mathbf{k}$  and  $\mathbf{b} = 4\mathbf{i} - \mathbf{j} + 2\mathbf{k}$ . Find  $\mathbf{a} + \mathbf{b}$  and  $3\mathbf{a} - \mathbf{b}$ .

2. Find a unit vector in the direction of  $\mathbf{v} = \langle 2, -4, 4 \rangle$ .

