

Name:  
Section:

**Quiz 1**

1. Determine which of the following pairs of vectors are orthogonal:
- a)  $\langle 1, 0, 1 \rangle, \langle 0, 1, 1 \rangle$
  - b)  $\langle \frac{\sqrt{2}}{2}, 1, \frac{\sqrt{2}}{2} \rangle, \langle \frac{\sqrt{2}}{2}, -1, \frac{\sqrt{2}}{2} \rangle$
  - c)  $\langle -1, \frac{1}{2}, 2 \rangle, \langle \frac{1}{2}, -2, 1 \rangle$

2. Find a vector orthogonal to both  $\langle 1, 1, 2 \rangle$  and  $\langle 0, 1, -1 \rangle$ .

3. Find a vector normal to the plane defined by the equation  $2x + z = 1$ .