Name: Section: 2   4 (circle one)

1. Plot the point $(1, -2, 3)$.

2. Give the equation of the circle with radius 2, centered at the point $(2, 0, 2)$ and parallel with the yz-plane.

3. Give the equation of the sphere with radius 3, centered at the point $(2, 0, 2)$.

4. For a constant k and $v = xi + yj + zk$, show that $|kv| = |k||v|$.

5. Find the angle between $u = \langle -1, 1, 0 \rangle$ and $v = \langle 1, -2, 4 \rangle$.

6. For $u = \langle 1, 1, 0 \rangle$ and $v = \langle 1, 0, 3 \rangle$, find $proj_v u$.

7. Find a vector orthogonal to both $u = \langle -2, 1, 3 \rangle$ and $v = \langle 0, 2, -3 \rangle$.