1. (20 points) Let $u = \langle 1, 2, 3 \rangle$ and $v = \langle -1, 0, 3 \rangle$ be two defined vectors. Compute $|2u - 3v|$.

2. (20 points) Find the distance from $(2, -1, 3)$ to the yz-plane.

3. (20 points) Write the equation of a sphere with center $(2, -1, 3)$ and radius 5.