

1. Find the equation of the sphere if the diameter has end points

$$(2, 1, 3) \text{ and } (-4, 6, 1)$$

2. Do the following three points lie on the same line? (Explain your answer.)

$$(1, -1, 3) \text{ } (2, 2, -1) \text{ and } (4, 9, -12)$$

3. A golfer hits a golf ball with an angle of  $60^\circ$  and speed of 90 ft/sec. Find the horizontal and vertical component of the velocity vector.