Math 226 – Quiz

Name _____

- **Write as neatly as you can!**
- **No calculators are allowed.**
- **You must show your work to obtain full credit.**

1. (*5 points*) Determine whether or not the points $A(0, 1, -1)$, $B(1, -1, 0)$, $C(-1, 3, -2)$ are collinear.

2. (*5 points*)

   (a) Show that the equation $x^2 + y^2 + z^2 - 2x - 4y - 6z = -13$ represents a sphere (put it into standard form).

   (b) The sphere in part (a) and the plane $x = 1$ intersect in a circle. Find the radius and the coordinates of the center of this circle.