

Name: _____

This quiz covers: 9.7

Directions: Complete all question and **show all applicable work.** Partial credit will be given. All questions are equally weighted.

An ellipse is formed by the intersection of a plane and a cylinder (excluding some special cases that you may ignore).

1.) Describe which of the coordinate systems (Cartesian, Cylindrical or Spherical) is most appropriate for this intersection.

2.) Using your system of choice, write the equation(s) of the ellipse formed by the intersection of the plane $x + y + z = 0$ and cylinder with radius 2 centered around the z-axis.

3.) Write the point $(x, y, z) = (4, -2, -4)$ in spherical coordinates.