Quiz 6

Name: _____

1a. Write the equations in spherical coordinates: (i) $z = \sqrt{x^2 + y^2}$; (ii) $x^2 + y^2 + z^2 = z$.

1b. A solid lies above $z = \sqrt{x^2 + y^2}$ and below $x^2 + y^2 + z^2 = z$. Write a description of the solid in terms of inequalities involving spherical coordinates.

2. Evaluate line integral $\int_C xy^2 ds$, where C is the top half of the circle $x^2 + y^2 = 4$.