

**Quiz 1****You have 25 minutes****Name:****Banner#:**

1. Determine the volume of the solid obtained by intersecting the sphere  $x^2 + y^2 + z^2 \leq 1$  and the cylinder  $x^2 + y^2 \leq (1/2)^2$ .
2. A solid  $S$  is bounded by the three coordinate planes and by the plane that goes through  $(1,0,0)$ ,  $(0,1,0)$  and  $(0,0,1)$ . That is,  $S$  is a pyramid whose vertices are these three points plus the origin.
  - (a) Find the volume of  $S$
  - (b) Find the surface area of  $S$