

Show all work clearly and in order, and circle your final answers. Justify your answers.

PROBLEM ONE Compute  $\iiint_B x^2 + y^2 dV$  where  $E$  is the region below the sphere  $x^2 + y^2 + z^2 = 9$  and above the cone  $z = \sqrt{x^2 + y^2}$  using both cylindrical and spherical coordinates. (Note: this means doing this problem two separate times!),