

Name: \_\_\_\_\_

1. (10 points) Find the total mass of the region given by  $x^2 + y^2 + z^2 \leq 4$ ,  $z \leq 0$ ,  $y \leq 0$ , if the density is given as  $\rho(x, y, z) = x^2 + y^2 + z^2$ .