King Fahd University of Petroleum and Minerals

MATH 201 QUIZ #6 Term 152 *Dr. A. Khalfallah*

Name:	Sec:	ID:

Q1 Evaluate $\iiint_E (x^2 + y^2)dV$ where E is the region bounded above by the sphere $x^2 + y^2 + z^2 = 1$ and below by the cone $z = \frac{1}{\sqrt{3}}\sqrt{x^2 + y^2}$

Q2 Find the volume of the solid cut from the thick-walled cylinder $1 \leq x^2 + y^2 \leq 2$ by the cones $z = \pm\sqrt{x^2 + y^2}$.

Q3 Find the volume of the region that lies inside the sphere $x^2 + y^2 + z^2 = 2$ and *outside* the cylinder $x^2 + y^2 = 1$.

Q4. Find the volume of the solid that is bounded above by the cylinder $z = 4 - x^2$, on the sides by the cylinder $x^2 + y^2 = 4$, and below by the xy-plane.