King Fahd University of Petroleum and Minerals

MATH 201 QUIZ #5 Term 171

Name:	Section:	ID:

Q1. Evaluate the iterated integral

$$\int_0^4 \int_{\sqrt{x}}^2 \frac{1}{y^3+1}\, dydx$$

Q2 Change the Cartesian integral into an equivalent polar integral. Then evaluate the polar integral

$$\int_{-1}^0 \int_{-\sqrt{1-x^2}}^0 \frac{2}{1+\sqrt{x^2+y^2}}\, d\,y\, dx$$

Q3 Find the volume, in the first octant, of the solid inside both the hemisphere $z = \sqrt{16 - x^2 - y^2}$ and the cylinder $x^2 + y^2 - 4x = 0$.