Math 241, Sections BL1 and BL2

Quiz # 5

November 1, 2012

Solve both exercises. Show work to get credit.

1) [5pts.] Evaluate the following integral by reversing the order of integration:

$$\int_0^{16} \int_{\sqrt{x}}^{4} \frac{1}{y^3 + 1} \, dy \, dx.$$

2) [5pts.] Use polar coordinates to find the volume of the solid bounded by the paraboloid $z = 7 + 2x^2 + 2y^2$ and the plane $z = 13$ in the first octant.