

Math 233 - November 2, 2009

- Volume Day

1. Let R be the larger region (with negative x -values) enclosed by the curves $y = -x + 2$, $y = x^2$ and $y = 1/2$. Set up the integral $\iint_R f(x, y) \, dA$ in both ways.

$$\iint_R f(x, y) \, dA =$$

Lecture Problems

2. Find the volume of the tetrahedron bounded by the coordinate planes and $8x + 2y + 3z = 24$.
3. Find the volume of the tetrahedron bounded by the coordinate planes and $-x + 2y - 3z = 24$.
4. Find the volume of the solid in the first octant bounded by the coordinate planes and the planes $2x + y - 4 = 0$ and $8x + y - 4z = 0$.
5. Find the volume of the solid in the first octant bounded by the cylinder $y = x^2$ and the planes $x = 0$, $z = 0$ and $y + z = 1$.
6. Find the volume of the solid bounded by $z = e^{x-y}$, the plane $x + y = 1$ and the coordinate planes.
7. Find the volume of the solid bounded by the cylinders $x^2 + z^2 = 16$, $y^2 + z^2 = 16$ and the coordinate planes.