Assignment 5

Due date for submitting this assignment has passed. No assignments have been submitted.

1. The integral \( \int \int \int \frac{1}{r} \, dV \) over the region \( \{ x^2 + y^2 + z^2 = 1 \} \) is equal to \( \frac{4\pi}{3} \) points.

2. The value of the integral \( \int_0^1 \int_0^1 \int_0^1 (x+y+z) \, dV \) is equal to \( \frac{1}{2} \) points.

3. The volume of the tetrahedron bounded by the plane \( x+y+z=1 \) and coordinate planes is \( \frac{1}{6} \) points.

4. The value of the integral \( \int_0^1 \int_0^1 (x+y) \, dV \) is equal to \( \frac{1}{2} \) points.

5. The value of the integral \( \int_0^1 \int_0^1 (x+y+z) \, dV \) is equal to \( \frac{1}{2} \) points.

6. The area enclosed by the paraboloids \( z = x^2 + y^2 \) and \( z = 1 - x^2 - y^2 \) is \( \frac{\pi}{4} \) points.

7. The area enclosed by the spheres \( x^2 + y^2 + z^2 = 1 \) and \( x^2 + y^2 + z^2 = 4 \) is \( \frac{4\pi}{3} \) points.

8. The area enclosed by the paraboloids \( z = x^2 + y^2 \) and \( z = 1 - x^2 - y^2 \) is \( \frac{\pi}{4} \) points.