

Name:

1. Evaluate the iterated integral

$$\iiint_E y dV$$

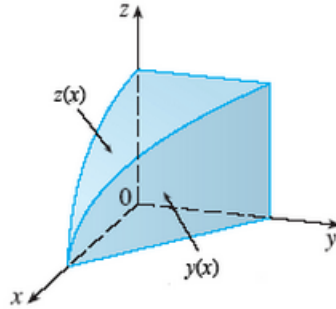
where $E = \{(x, z, y) | 0 \leq x \leq 3, 0 \leq y \leq x, x - y \leq z \leq x + y\}$.

2. Set up a triple integral to find the volume of the tetrahedron enclosed by the coordinate planes and the plane $2x + y + z = 4$.

3. Consider the following object. The volume of the object is given by an integral:

$$\int_0^4 \int_0^{16-x^2} \int_0^{4-x} f(x, y, z) dy dz dx$$

Assume $y(x) = 4-x$, $z(x) = 16-x^2$.



Rewrite this integral according to the order of integration $dx dy dz$ and $dz dx dy$.