

## Triple Integrals

1. Evaluate the triple integral

$$\int_0^{\sqrt{\pi}} \int_0^x \int_0^{xz} (x^2 \sin y) dy dz dx$$

2. Setup (but do not evaluate) the integral of  $f(x, y, z) = e^{xyz}$  over the region bounded by  $x = y^2$  and the planes  $x = z$ ,  $z = 0$ ,  $x = 1$ .
3. Setup (but do not evaluate) the integral of  $f(x, y, z) = x^2y$  over the region bounded by  $x = y^2 + z^2$  and  $x = 16$ .