Quiz 6
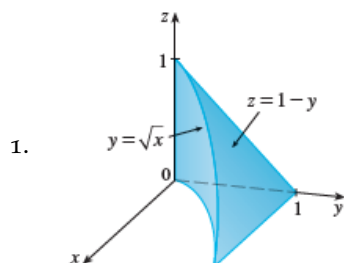
Full Name: _____

1.

The figure shows the region of integration for the integral

$$\int_0^1 \int_{\sqrt{x}}^1 \int_0^{1-y} f(x,y,z)\,dz\,dy\,dx$$

10

Rewrite this integral as an equivalent iterated integral in the following orders.

a) **dy dx dz**

b) **dx dz dy**

2. A cylindrical drill with radius **2** is used to bore a hole through the center of a sphere of radius **5**. Assume that the center of the sphere is at the origin. Use Polar coordinates to set up the integral that finds the volume of the ring-shaped solid that remains. **Do not evaluate it.**

10

3. Calculate the iterated integral

$$\int_0^1 \int_x^1 \cos\left(y^2\right)\,dy\,dx$$

5

by reversing the order if necessary.