

ESP Quiz 4 (Kouba)

Please PRINT your name here : _____

This quiz is due next Tuesday at the beginning of ESP class.

1.) (10 pts. each) Consider the triangular region R with vertices $(0, 0)$, $(3, 5)$, and $(5, 5)$.

Describe this region using

a.) vertical cross-sections.

b.) horizontal cross-sections.

c.) polar coordinates.

2.) (15 pts.) Evaluate the following double integral.

$$\int_0^2 \int_0^{\sqrt{1-(x-1)^2}} 3\sqrt{x^2+y^2} \, dy \, dx$$

3.) (15 pts.) Sketch the solid in three dimensional space whose volume is given by the following triple integral.

$$\int_0^4 \int_{\sqrt{x}}^2 \int_0^{x^2+y^2} 1 \, dz \, dy \, dx$$