Math 126A **Calculus With Analytic Geometry III** **Fall 1995**

QUIZ #10 ANSWERS

D is the triangle shown, bounded by the x-axis, the ray making an angle $\theta = \frac{2\pi}{3}$ with the x-axis, and the line $x + y = 2$:

Set up in polar coordinates the integral $\iint_D xy^2\,dA$.

$$\int_{\boxed{\theta = 0}}^{\boxed{\theta = \frac{2\pi}{3}}} \int_{\boxed{r = 0}}^{\boxed{r = \frac{2}{\cos\theta + \sin\theta}}} \boxed{r^4 \cos\theta \sin^2\theta}\; d\boxed{r}\; d\boxed{\theta}$$