MATH 2415 TEST 5

Name: _____

Date: March 27, 2013.

Exercise	Point Possible	Score
1	50	
2	50	
Total	100	

1. [**50 points**] Find the volume of the solid under the surface $z = xy$ and above the triangle with vertices $(1, 1)$, $(4, 1)$, $(1, 2)$.

2. [50 points] Assume independent variables x and y normally distributed according to

$$\rho(x) = \frac{\mathrm{e}^{-x^2/2}}{\sqrt{2\pi}} \text{ and } \rho(y) = \frac{\mathrm{e}^{-y^2/2}}{\sqrt{2\pi}}.$$

To the nearest percent, what is the probability that (x, y) is in the annulus

$$\{(x, y) : 1 \leq \sqrt{x^2 + y^2} \leq 2\}?$$