MATH 261 Quiz 8 Name: .

Section:

Show all work. 5 points each.

1) Change the integral to one in Polar coordinates $\iint_D x^2 + y^2 \, dA$ where $D = \{(x, y) | x^2 + y^2 \geq 2, \, y \geq 0 \text{ and } (x-1)^2 + y^2 \leq 1\}$ Hint: Last circle in polar coordinates is $r = 2\cos(\theta)$

2) If $\rho(x, y) = x + y$ is the density function for the lamina that occupies the region D,a triangular region with vertices $(0, 0)$, $(2, 1)$ and $(0, 3)$, set up the integrals for finding the mass and the center of mass of a lamina.