Math 3298 Worksheet 17: moments and weighted averages

Group members (2 to 4): _____

(1) Find the center of mass of the lamina defined by $y \geq x^2$, $y \leq 4$, $x \geq 0$ with density $\rho(x, y) = x$. The center of mass is $(M_y/m, M_x/m)$ where m is the total mass ($m = \int\int_R \rho \, dA$) and $M_y = \int\int_R x\rho \, dA$, $\quad M_x = \int\int_R y\rho \, dA$. Sketch the integration region and indicate the center of mass.