Section 15.4: Additional Problems

1. Find the center of mass of the lamina that occupies the triangle region with vertices $(0,0)$, $(1,1)$, and $(4,0)$. The density of the region is given by $\rho(x,y) = y$

2. Find the center of mass for the region $D = \{(x,y) \mid x^2 + y^2 \le 9, \ x \ge 0\}$.

   The density at any point is proportional to the square of its distance from the origin.

3. Set up the integral to find the mass of a thin lamina bounded by the curves $x = y^2$, $x = 4 - y^2$ with density proportional to the distance from the point $(3,1)$