

Show all work. 5 points each.

1. **Set up** the integrals for finding the center of mass of the lamina that occupies the region  $D$  that is bounded by  $y = 1 - x^2$  and  $y = 0$  and has density  $\rho(x, y) = y$

2. Find the surface area of the plane  $-2x + 2y + z = 4$  that lies inside the cylinder  $x^2 + y^2 = 1$ . Hint  $\iint_D 1dA = Area(D)$ .

