

2. The area of the plate is  $\pi$  square units, hence the mass is finite, but  $\lim_{n \rightarrow \infty} \ln(1 + x^2)$  does not exist so there is no center of mass.

3. (a)  $\bar{y} = 0$ ;  $\bar{x} = \frac{9}{16}$

(b)  $\bar{y} = 0$ ;  $\bar{x} \approx 0.7095$

4.  $\bar{x} \approx 0.93313$