Calculus and Analytic Geometry II   **Name:** _____

> The majority of the credit you receive will be based on the completeness and the clarity of your responses. **Show all of your work and justify your solutions as much as possible.**
> This is a 20 minute quiz and has 2 questions, for a total of 10 points

(5 points)   1. Sketch the curve defined by the parametric equations $x = \sin(\frac{\theta}{2})$ and $y = \cos(\frac{\theta}{2})$ on $-\pi < \theta < \pi$. Indicate on the sketch where $\theta = \pi$ and where $\theta = \pi$.

(5 points)   2. Find the fluid force on a side of a semicircular plate of radius R, (fully) submerged vertically in a fluid of density ρ so that its diameter is at a depth of d units below the surface of the fluid (assume that $d > R$).