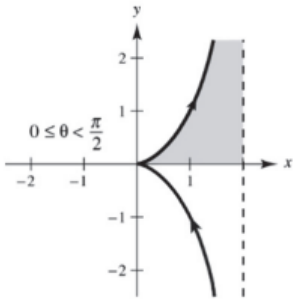
Homework5

1. Find the area of the region.(Use the result of Exercise 77.)

$$x = 2\ sin^2\theta$$
$$y = 2\ sin^2\theta\ tan\theta$$
$$0 \leq \theta < \frac{\pi}{2}$$



2. Use the series representation of the function f to find $\lim_{x \to 0} f(x)$, if it exists.

$$f(x) = \frac{e^x - 1}{x}$$

3. Convert the polar equation to rectangular form and sketch its graph.

$$r = sec\ \theta\ tan\ \theta$$