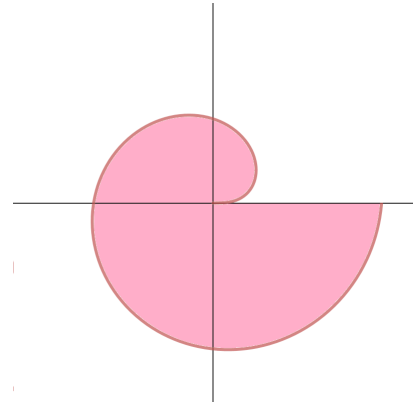


Homework Sec 10.4

Name : _____

(Please use your own paper. Show all work. Leave plenty of space between each answer. Check your answers against my answer key [egunawan.github.io/spring18/notes/HW10_4key.pdf](https://github.com/egunawan/spring18/notes/HW10_4key.pdf)).

- Find the area of the region that is bounded by the polar curve $r = \tan \theta$ and lies on the interval $\frac{\pi}{6} \leq \theta \leq \frac{\pi}{3}$.
- Find the area of the shaded region enclosed by the polar curve $r = \sqrt{\theta}$.



- Find the area of the region enclosed by one loop of the polar curve $r = \cos 3\theta$.
- Find the area of the region enclosed by one loop of the polar curve $r = \sin 4\theta$.
- Find the area of the region inside the larger loop and outside the smaller loop of the polar curve $r = 1 + 2 \cos \theta$.
- Find the area of the region that lies inside both $r = 4 \sin 2\theta$ and $r = 4 \cos 2\theta$.
- Find all points of intersection of the curves $r = \sin \theta$ and $r = \sin 2\theta$.