Area in Polar Coordinates: 9.3 Part 1 Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What is the area of a circle?
2. What is the area of a sector of a circle?
3. Why do you think the area of a polar region is ?
4. Find the area enclosed by one loop of . Draw your graph!!
5. Find the area of the inner loop of .
6. Find that area that lies inside of  and outside .
7. Find that area that lies outside of  and inside .