

Review Packet for Final Exam

Material since Exam #3

Math 121-D. Benedetto

Polar Coordinates: For each problem, sketch the polar curve(s) and answer the related question(s).

1. Find the area bounded by $r = 2 \sin \theta$.
2. ~~Find the area bounded by one petal/loop of the 4-leaved rose $r = 3 \sin(2\theta)$.~~
3. ~~Find the area bounded by $r = \theta$ with $0 \leq \theta \leq 2\pi$.~~
4. Find the area bounded by the cardioid $r = 2 + 2 \sin \theta$.
5. Find the area bounded inside $r = 2 + 2 \cos \theta$ and outside $r = 3$.
6. Find the area bounded inside $r = 2 \sin \theta$ and outside $r = \sqrt{2}$.
7. Find the area bounded inside $r = 3 + 3 \sin \theta$ and outside $r = \frac{9}{2}$.
8. Find the area bounded outside the polar curve $r = 2 + 2 \cos \theta$ and inside the polar curve $r = 6 \cos \theta$.