

Graph each region then find its area.

1. The region bounded by the graph $r = \sin(\theta)$
2. One leaf of $r = 4 \sin(3\theta)$
3. The four leaf region $r = \cos(2\theta)$
4. The region inside the big leaf of $r = 1 - 2 \sin(\theta)$ but outside the small leaf
5. The region inside $r = 4 \sin(\theta)$ but outside $r = 1$
6. The region inside $r = 2 \cos(2\theta)$ but outside $r = 1$