

HW 7.4: AREA IN POLAR COORDINATES

For each problem below,

- a. Use technology to graph the curve.
- b. Shade the region R in your sketch.
- c. Set up and evaluate the integral representing the area of the region R .

1. R is the region enclosed by $r = 6 \sin(\theta)$.
2. R is the region enclosed by one petal of $r = 3 \cos(2\theta)$.
3. R is the region enclosed by the region $r = 2 + 4 \cos(\theta)$ but outside the inner loop.
4. R is the region common to both $r = 4 \sin(2\theta)$ and $r = 2$.

Note: These problems are like those in §7.4 #'s 188-213.