

Partial solutions for 3 5 6 7 9 23 45 47

3.  $\pi/2$

5.  $1/2$

6.  $9\pi/8 - 2$

7.  $41\pi/4$

9.  $\pi$

23.  $\theta = \pi/6, \theta = 5\pi/6$ . Area:  $4\pi/3 + 2\sqrt{3}$

45.  $2\pi$

47. Eww.  $\frac{8}{3} [(\pi^2 + 1)^{3/2} - 1]$