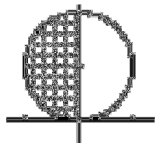
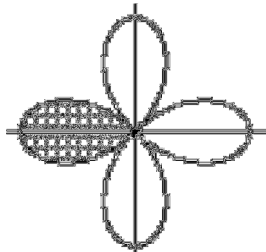


Find the area of the shaded region

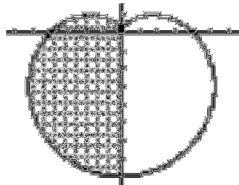
1. $r = 2 \sin \theta$



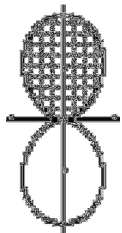
2. $r = \cos 2 \theta$



3. $r = 1 - \sin \theta$



4. $r = 1 - \cos 2 \theta$



Find the area enclosed.

5. $r = 8 \sin \theta$

6. $r = 3 \cos \theta$

7. $r = 2 \cos 3 \theta$

8. $r = \cos 5 \theta$

Find the Arc Length

9. $r = a, 0 \leq \theta \leq 2\pi$

10. $r = 8(1 + \cos \theta), 0 \leq \theta \leq 2\pi$