

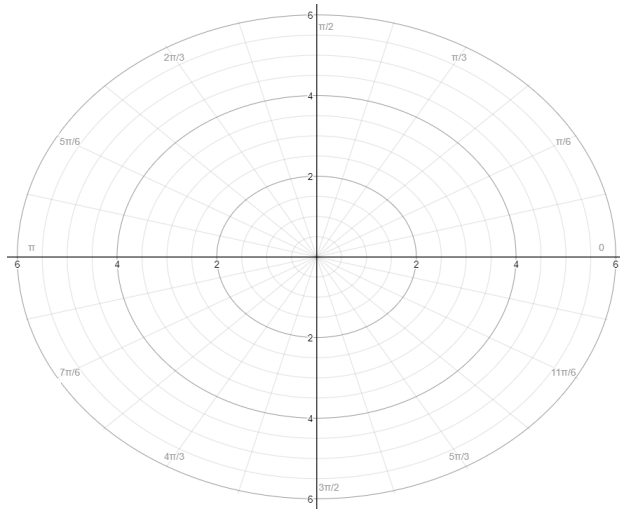
Math 152 Week in Review: Section 10.3, 10.4

1. Give two polar representations for the point $(-5\sqrt{3}, 5)$. One with $r > 0$ and one with $r < 0$.

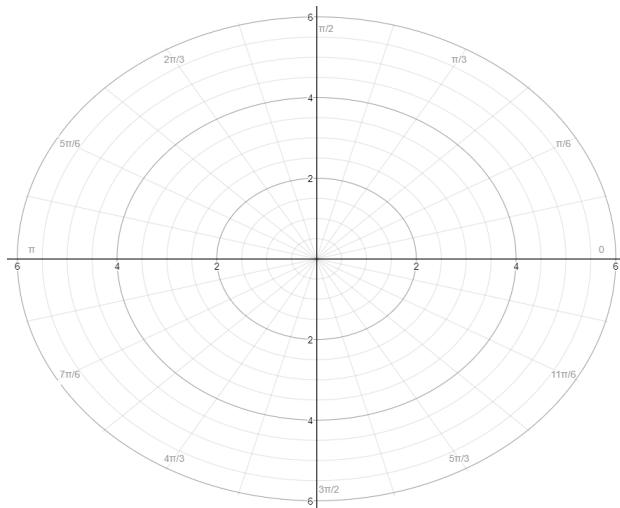
2. Write a Cartesian equation for the polar curve $r = -8 \sin \theta$

3. Write a Cartesian equation for the polar curve $r^2 \sin(2\theta) = 1$.

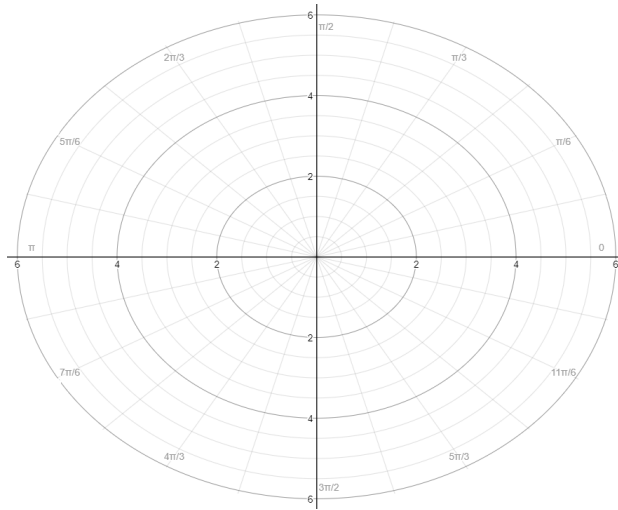
4. Graph $r = 4 \cos(3\theta)$



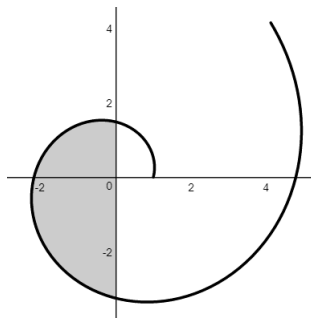
5. Graph $r = 3 \sin(2\theta)$



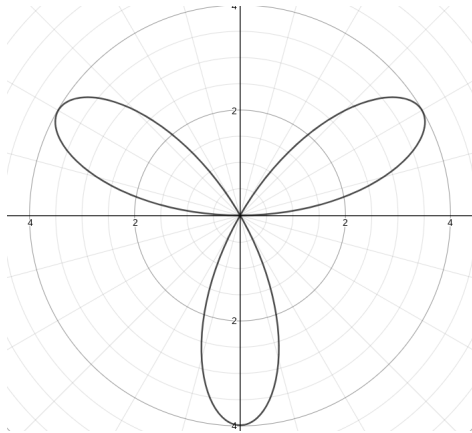
6. Graph $r = 1 + 3 \sin \theta$



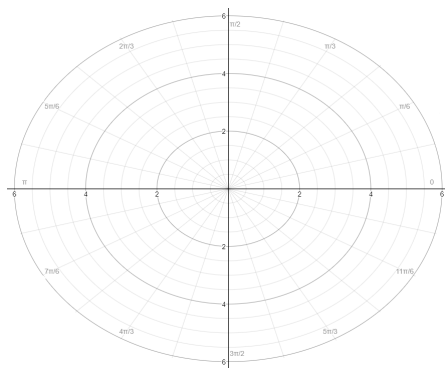
7. Find the area shaded in the region below for the curve $r = e^{\theta/4}$.



8. Find the area of inside one petal of the polar curve $r = 4 \sin(3\theta)$.



9. Find the area inside the polar curve $r = 2 + \cos(4\theta)$.



10. Set up the integral for the area inside the circle $r = 6$ and outside the cardioid $r = 4 - 4 \sin \theta$.

11. Find the length of the polar curve. $r = e^{3\theta}$, $0 \leq \theta \leq 2\pi$

12. Set up an integral for the arc length of one petal $r = 4 \sin(3\theta)$.

