Find the area enclosed by

$$r = 1 + \cos(\theta)$$

$$r = \sin(2\theta)$$

$$r = a\cos(3\theta)$$

Find the slope of the line tangent to the polar curve

$$r = a \tan\left(\frac{\theta}{2}\right) \text{ at } \theta = \frac{\pi}{2}$$

Find the area inside $r = \cos(\theta)$ And outside $r = 1 - \cos(\theta)$

Find the area common to

$$r = \sin\left(3\theta\right) \text{ and } r = \cos\left(\theta\right)$$

Find the length of the cardiod

$$r = a\left(1 - \cos\left(\theta\right)\right)$$

Find the area inside $r = 1 + 2\cos(2\theta)$

Determine the length of $r = e^{-\theta}$

For $\theta \geq 0$

$$r = 2 + \cos(\theta)$$

Find all horizontal tangents

Find the area

Find the length

Find the area common to the two polar curves listed below

$$r^2 = 1 + 2\cos(2\theta)$$

$$r = 1 - \cos(2\theta)$$

Find the area enclosed by

$$r = \sin(3\theta)$$

Find the surface area of the region formed by rotating it about the x-axis

Determine the area outside $r = \sin(\theta)$

And inside $r = \cos(\theta) - 1$