

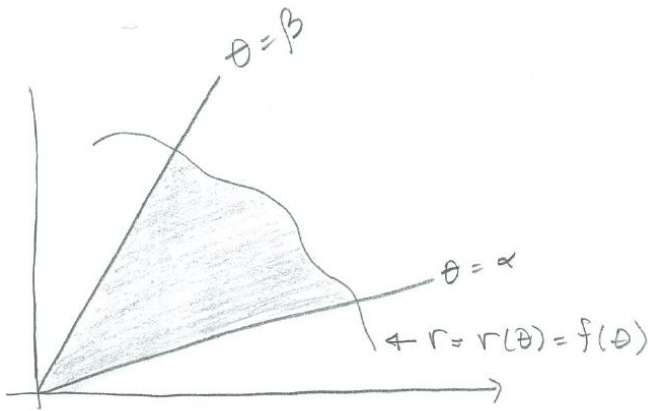
Area of a sector of a circle

$$A_{\text{sector}} =$$

Find the area inside the

polar curve $r = f(\theta)$

for $\alpha \leq \theta \leq \beta$



Divide the θ -interval into n subintervals and approximate the area of each section using sectors of a circle:

$$\Delta\theta =$$

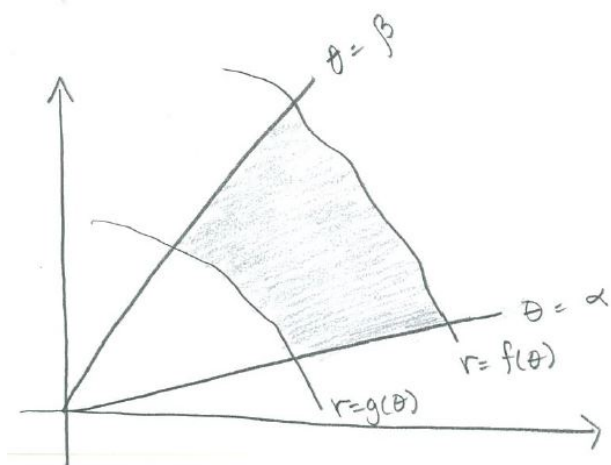
and θ_i^*

$$A_i =$$

Add up all the areas:
$$A \approx \sum_{i=1}^n A_i =$$

Take the limit as $n \rightarrow \infty$:
$$A = \lim_{n \rightarrow \infty} \sum_{i=1}^n$$

For the area between two polar curves:



$$A = (\text{Area inside } f) - (\text{Area inside } g)$$