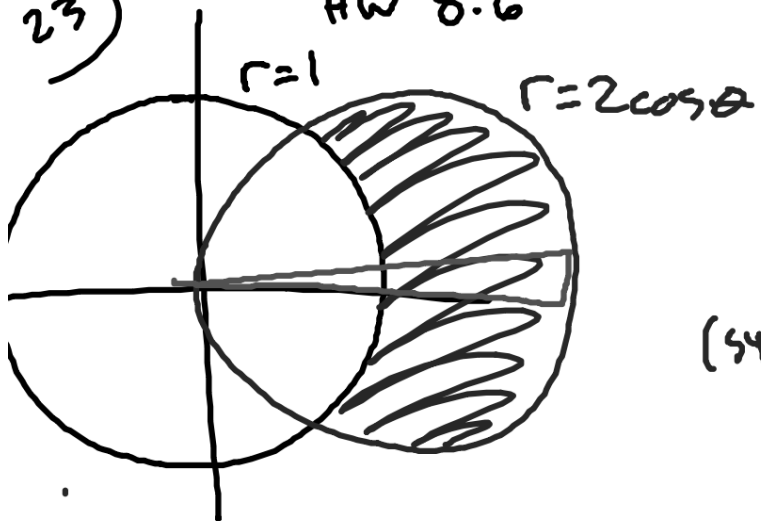


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HW 8.6



(symmetry)

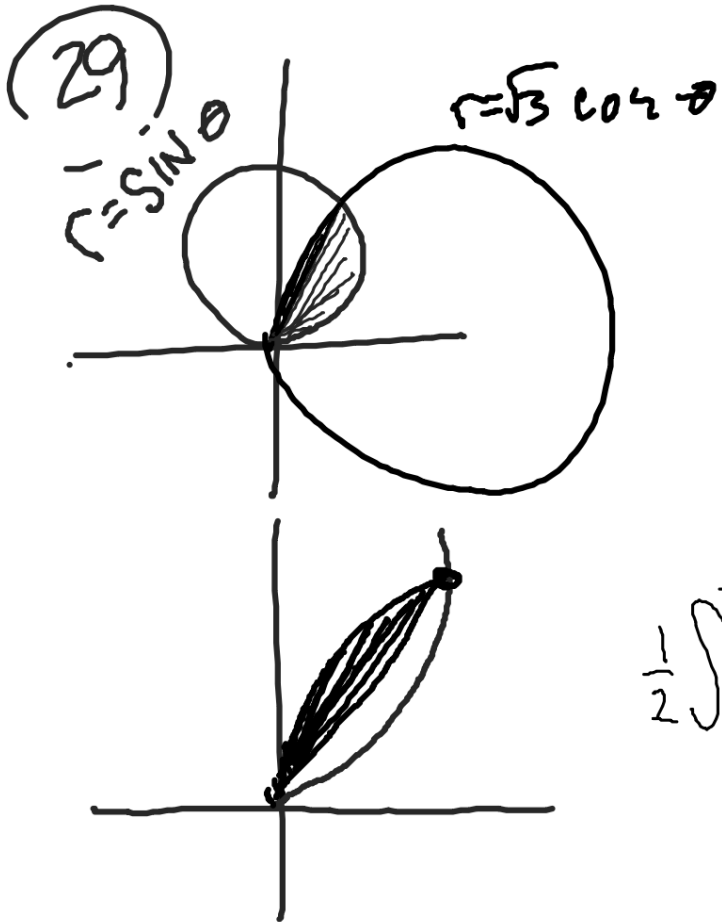
$$2 \cdot \frac{1}{2} \int_0^{\pi/3} [(2\cos\theta)^2 - 1^2] d\theta$$

$$\boxed{1.913}$$

$$1 = 2\cos\theta$$

$$\frac{1}{2} = \cos\theta$$

$$\frac{\pi}{3} = \theta$$



$$\sqrt{3} \cos \theta = \sin \theta$$

$$\sqrt{3} = \frac{\sin \theta}{\cos \theta}$$

$$\sqrt{3} = \tan \theta$$

$$\tan^{-1} \sqrt{3} = \theta$$

$$\frac{\pi}{3} = \theta$$

$$\frac{1}{2} \int_0^{\pi/3} (\sin^2 \theta) d\theta + \frac{1}{2} \int_{\pi/3}^{\pi/2} (\sqrt{3} \cos \theta)^2 d\theta$$

$$0.22148$$