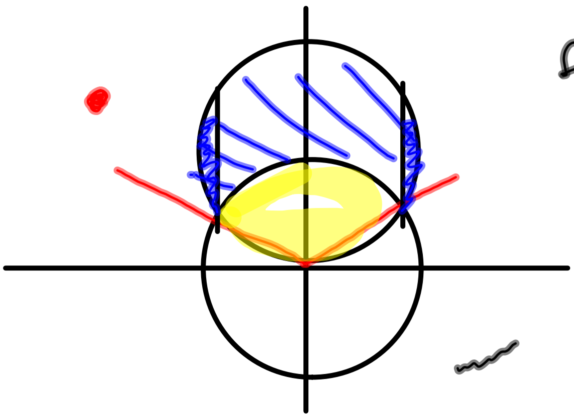

M1: subtract \\\\ area from area of circle of radius r = 1

$$\pi(1)^2 - \frac{1}{2}\int_{\frac{\pi}{6}}^{\frac{5\pi}{6}} \left[(2\sin\theta)^2 - 1^2\right] d\theta$$

$2\sin\theta = 1$

\\\\\\

M2:

$$2\left[\frac{1}{2}\int_0^{\frac{\pi}{6}} (2\sin\theta)^2\, d\theta + \frac{1}{2}\int_{\frac{\pi}{6}}^{\frac{\pi}{2}} 1^2\, d\theta\right]$$

2, 1, $\sqrt{3}$

$$2\int_0^{\frac{\sqrt{3}}{2}} \left[1^2 - \left(1 - \sqrt{1-x^2}\right)\right] dx$$

No. $y = \sqrt{1-x^2}$

$$\cancel{= 2\int_0^{\frac{\sqrt{3}}{2}} \sqrt{1-x^2}\, dx}$$

$$= 2\int_0^{\frac{\sqrt{3}}{2}} \left(\sqrt{1-x^2} - \left(1-\sqrt{1-x^2}\right)\right) dx$$

$$= 2\int_0^{\frac{\sqrt{3}}{2}} \left(2\sqrt{1-x^2} - 1\right) dx$$

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$$\pi - \frac{1}{2} \cdot \int_{\frac{Pi}{6}}^{\frac{5 \cdot Pi}{6}} \left((2 \cdot \sin(x))^2 - 1 \right) dx$$

$$\frac{2}{3}\pi - \frac{1}{2}\sqrt{3}$$

$$\int_0^{\frac{Pi}{6}} (2 \cdot \sin(x))^2 \, dx + \int_{\frac{Pi}{6}}^{\frac{Pi}{2}} 1 \, dx$$

$$\frac{2}{3}\pi - \frac{1}{2}\sqrt{3}$$

$$2 \cdot \int_0^{\frac{sqrt(3)}{2}} \left(2 \cdot sqrt\left(1 - x^2\right) - 1 \right) dx$$

$$\sqrt{\pi}\left(\frac{1}{2}\frac{\sqrt{3}}{\sqrt{\pi}} + \frac{2 \arcsin\left(\frac{1}{2}\sqrt{3}\right)}{\sqrt{\pi}}\right) - \sqrt{3}$$

$= \frac{2\pi}{3} - \frac{\sqrt{3}}{2}$ Sweet!

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Monday 12:00 - 5:00 (1:00)

Tuesday Not sure