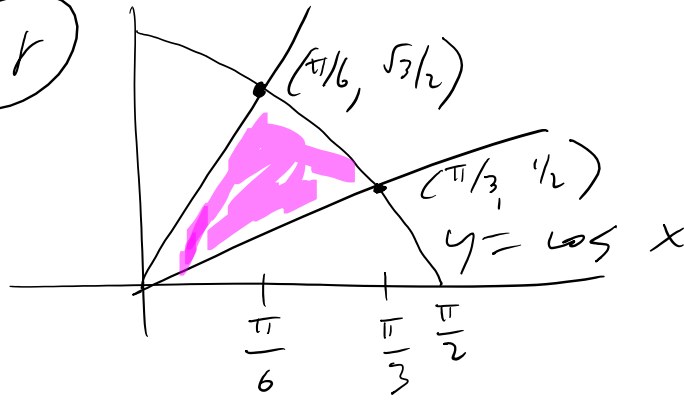


(1r)



$$\text{slope} = \frac{\frac{\sqrt{3}}{2}}{\frac{\pi}{6}} = \frac{3\sqrt{3}}{\pi}$$

$$y = \frac{3\sqrt{3}}{\pi} x$$

$\frac{\pi}{6}$

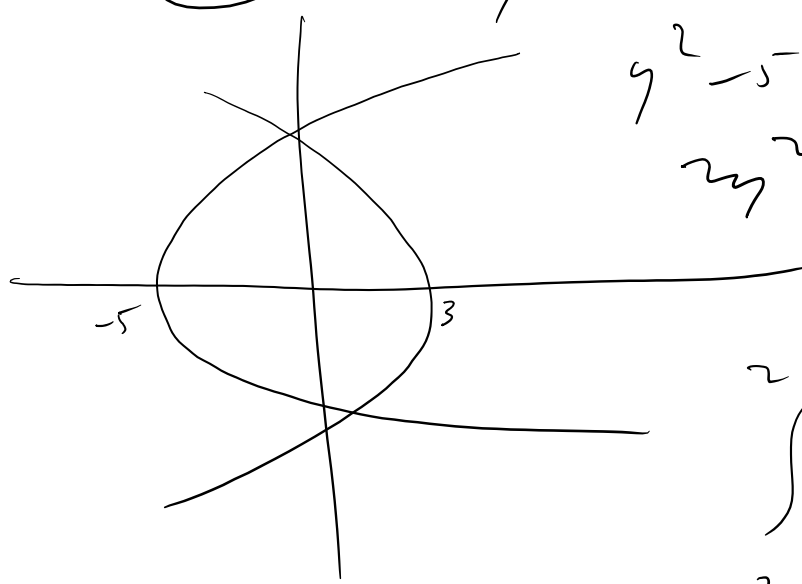
$$\int_0^{\frac{\pi}{6}} \left( \frac{3\sqrt{3}}{\pi} x - \frac{3}{2\pi} x \right) dx + \int_{\frac{\pi}{6}}^{\frac{\pi}{3}} \left( \cos x - \frac{3}{2\pi} x \right) dx$$

$$\text{slope} = \frac{\frac{1}{2}}{\frac{\pi}{3}} = \frac{3}{2\pi}$$

$$y = \frac{3}{2\pi} x$$

(24)  $x = y^2 - 5$

$x = 3 - y^2$



$$y^2 - 5 = 3 - y^2$$

$$2y^2 = 8$$

$$y^2 = 4$$

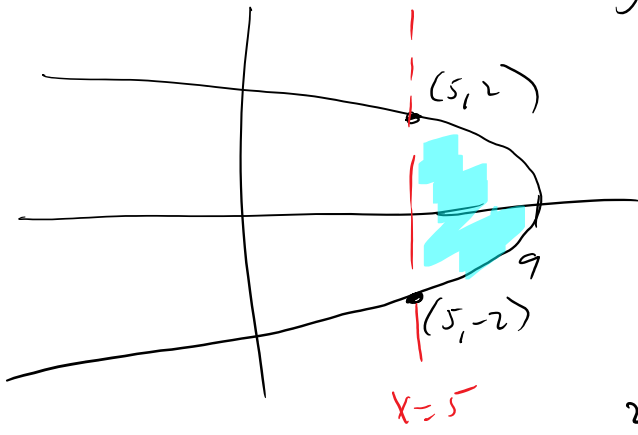
$$y = \pm 2$$

$$\int_{-2}^2 (3 - y^2 - (y^2 - 5)) dy$$

(25)

$$x = 9 - y^2$$

$$x = 5$$



$$\int_{-2}^2 (9 - y^2 - 5) dy = 10 \frac{2}{3}$$

$$x - 9 = -y^2$$

$$y^2 = 9 - x \quad y = \pm \sqrt{9 - x}$$

$$2 \int_5^9 \sqrt{9 - x} dx$$

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$$\frac{1}{4} \left( \frac{2}{5} (2x+1)^{5/2} - \frac{2}{3} (2x+1)^{3/2} \right)$$

$$\int x \sqrt{2x+1} \, dx$$

$$u = 2x+1 \rightarrow x = \frac{u-1}{2}$$

$$du = 2 \, dx$$

$$\frac{1}{2} du = dx$$

$$\frac{1}{2} \int x \cdot u^{1/2} \, du$$

$$\frac{1}{2} \int \frac{u-1}{2} \cdot u^{1/2} \, du$$

$$\rightarrow \frac{1}{4} \int (u-1) u^{1/2} \, du$$

$$\frac{1}{4} \int u^{3/2} - u^{1/2} \, du$$

$$\frac{1}{4} \left( \frac{2}{5} u^{5/2} - \frac{2}{3} u^{3/2} \right)$$

$$\frac{1}{4} \left( \frac{2}{5} (2x+1)^{5/2} - \frac{2}{3} (2x+1)^{3/2} \right)$$