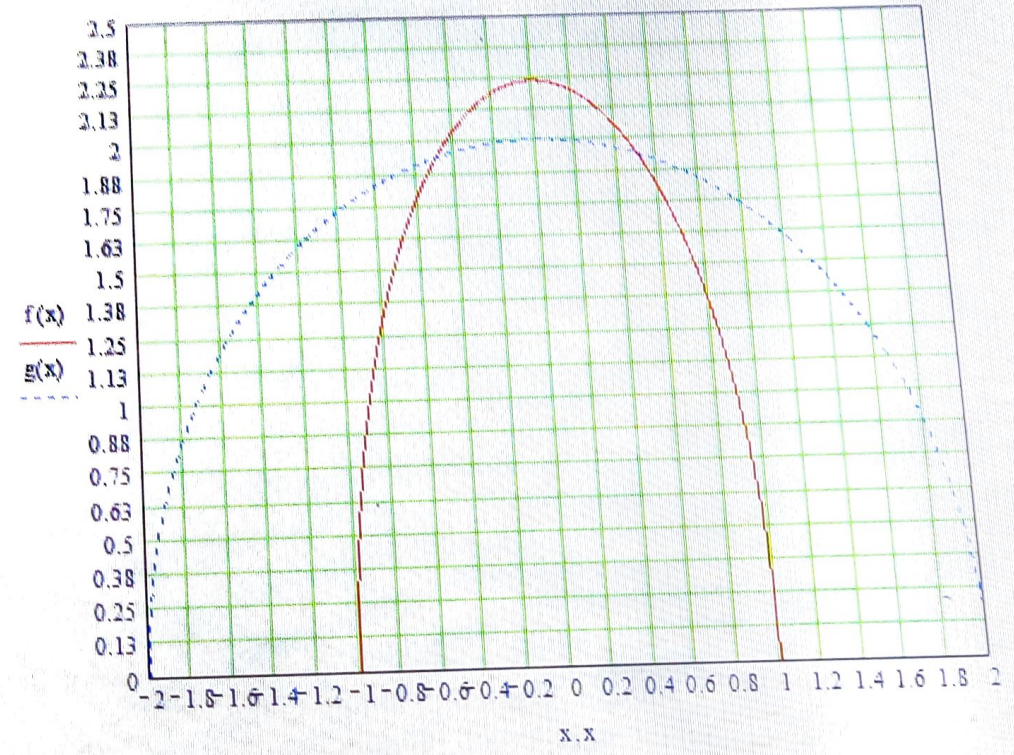


$$f(x) = \sqrt{5 - 5x^2}$$

$$g(x) = \sqrt{4 - x^2}$$



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① $5x^2 + y^2 = 5$

$$x^2 + y^2 = 4$$

$$4x^2 = 1$$

$$x^2 = \frac{1}{4}$$

$$x = \pm \sqrt{\frac{1}{4}}$$

$$= \pm 0.5$$

② $5x^2 + y^2 = 5$

$$5(0.5)^2 + y^2 = 5$$

$$\frac{5}{4} + y^2 = 5$$

$$y^2 = 5 - \frac{5}{4}$$

$$y = \pm \sqrt{\frac{15}{4}}$$

$$= \pm \frac{\sqrt{15}}{2} = 1.93$$

$$\therefore y = 1.93 \quad x = 0.5$$

Find $\frac{dy}{dx}$ of eqn ① and ②

① $5x^2 + y^2 = 5$

$$\frac{dy}{dx} = \frac{10x}{2y}$$

② $x^2 + y^2 = 4$

$$\frac{dy}{dx} = \frac{-2x}{2y}$$

Substituting the values of y and x

$$\frac{dy}{dx} = \frac{10 \cdot 0.5}{2 \cdot 1.93}$$

$$\frac{dy}{dx} = \frac{-2 \cdot 0.5}{2 \cdot 1.93} = -0.25$$

Since $\frac{dy}{dx} = \tan \theta$

$$\theta = \tan^{-1} \left(\frac{dy}{dx} \right)$$

$$\theta_1 = \tan^{-1}(-0.25) = -14.52$$

$$\theta_2 = \tan^{-1}(-1.295) = -52.32$$

$$= -52.32$$

$$|\theta_1 - \theta_2| = |-52.32 - (-14.52)| = \frac{37.8}{2}$$