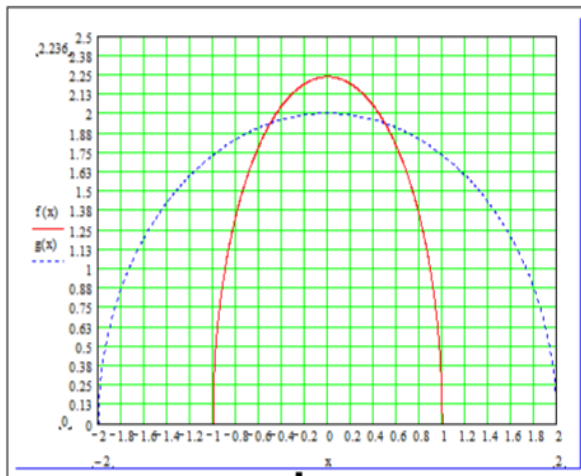


$$f(x) = \sqrt{5 - 5x^2}$$

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



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$5x^2 + y^2 = 5$  ----- (1)  
 $x^2 + y^2 = 4$  ----- (2)

Using elimination method  
 $5x^2 + y^2 = 5$   
 $-1x^2 + y^2 = 4$   
 $4x^2 = 1$   
 $x^2 = \frac{1}{4}$   
 $x = \pm \sqrt{\frac{1}{4}} = \pm 0.50$   
 $x_1 = 0.50, x_2 = -0.50$

Inserting positive values of  $x$  into (2)  
 $x^2 + y^2 = 4$   
 $(0.50)^2 + y^2 = 4$   
 $0.25 + y^2 = 4$   
 $y^2 = 4 - 0.25$   
 $y^2 = 3.75$   
 $y = \sqrt{3.75} = \pm 1.94$   
 $y_1 = 1.94, y_2 = -1.94$

Finding the slope of eqn (1)  
 $5x^2 + y^2 = 5$   
 $10x + 2y \frac{dy}{dx} = 0$   
 $2y \frac{dy}{dx} = -10x$   
 $\frac{dy}{dx} = \frac{-10x}{2y}$   
 $\frac{dy}{dx} = -1.29$

$\tan \theta = \frac{dy}{dx}$   
 $\theta_1 = \tan^{-1} \left( \frac{dy}{dx} \right)$   
 $\theta_1 = -52.22$

Finding slope of eqn (2)  
 $x^2 + y^2 = 4$   
 $2x + 2y \frac{dy}{dx} = 0$   
 $2y \frac{dy}{dx} = -2x$   
 $\frac{dy}{dx} = \frac{-2x}{2y} = -0.26$   
 $\tan \theta_2 = \frac{dy}{dx}$   
 $\tan \theta_2 = -0.26$   
 $\theta_2 = \tan^{-1} (0.26)$   
 $\theta_2 = -14.57^\circ$

$\theta = \theta_2 - \theta_1$   
 $\theta = -14.57 - (-52.22)$   
 $\theta = -14.57 + 52.22$   
 $\theta = 37.65^\circ$