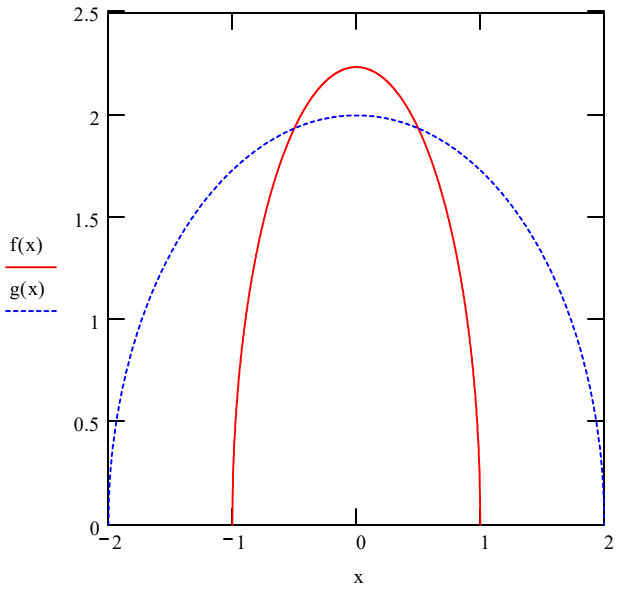
$$g(x) := \sqrt{4 - x^2}$$

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



$5x^2+y^2=5$ (i)

$x^2+y^2=4$ (ii)

Solve it simultaneously

$1 \times 5x^2+y^2=5$

$1 \times x^2+y^2=4$

$5x^2+y^2=5$

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

$4x^2 = 1$

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

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

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

Substitute $x=\frac{1}{2}$ in equation (ii)

$(\frac{1}{2})^2+y^2=4$

$\frac{1}{4}+y^2=4$

$y^2 = 4-\frac{1}{4}$

$y^2 = 3\frac{3}{4}$

$y = \sqrt{3\frac{3}{4}} = \frac{\sqrt{15}}{2}$

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

differentiate equation (i)

$5x^2+y^2=5$

$10x + 2y\frac{dy}{dx} = 0$

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

$= -\frac{5x}{y}$

Substitute $x=\frac{1}{2}$ and $y=\frac{\sqrt{15}}{2}$

$\frac{dy}{dx} = \frac{-5(\frac{1}{2})}{\frac{\sqrt{15}}{2}} = -1.291$

$\tan\theta_1 = \frac{dy}{dx}$

$\theta_1 = \tan^{-1}\frac{dy}{dx}$

$\theta_1 = \tan^{-1}(-1.291)$

$= -52.239$

differentiate equation 2

$x^2+y^2=4$

$2x+2y\frac{dy}{dx} = 0$

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

$\frac{dy}{dx} = -\frac{x}{y} = \frac{-\frac{1}{2}}{\frac{\sqrt{15}}{2}} = 0.$

$\frac{dy}{dx}\tan\theta_2 = \frac{dy}{dx}$

$\theta_2 = \tan^{-1}\frac{dy}{dx} = -14.4775$

$\theta_2 \sim \theta_1 = -52.239 - 14.4775$

$= -52.239 + 14.4775$

$=$

$5x^2+y^2=5$ (i)

$x^2+y^2=4$ (ii)

Solve it simultaneously

$1\times 5x^2+y^2=5$

$1\times x^2+y^2=4$

$5x^2+y^2=5$

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

$4x^2 = 1$

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

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

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

Substitute $x=\frac{1}{2}$ in equation (ii)

$\left(\frac{1}{2}\right)^2+y^2=4$

$\frac{1}{4}+y^2=4$

$y^2 = 4-\frac{1}{4}$

$y^2 = 3\frac{3}{4}$

$y = \sqrt{3\frac{3}{4}} = \frac{\sqrt{15}}{2}$

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

differentiate equation (i)

$5x^2+y^2=5$

$10x + 2y\frac{dy}{dx} = 0$

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

Above $x=\frac{1}{2}$ & $y=\frac{\sqrt{15}}{2}$

$\frac{dy}{dx} = \frac{-5\left(\frac{1}{2}\right)}{\frac{\sqrt{15}}{2}} = -1.291$

$\tan\theta_1 = \frac{dy}{dx}$

$\theta_1 = \tan^{-1}\frac{dy}{dx}$

$\theta_1 = \tan^{-1}(-1.291)$

$= -52.239$

differentiate equation (ii)

$x^2+y^2=4$

$2x+2y\frac{dy}{dx} = 0$

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

$\frac{dy}{dx} = -\frac{x}{y} = \frac{-\frac{1}{2}}{\frac{\sqrt{15}}{2}} = 0$

$\frac{dy}{dx}\tan\theta_2 = \frac{dy}{dx}$

$\theta_2 = \tan^{-1}\frac{dy}{dx} = -14.4775$

$\theta_2 \sim \theta_1 = -52.239 \sim 14.4775$

$= -52.239 + 14.4775$

$= -37.7615$

$|\theta_2-\theta_1| = 37.7615^\circ$

$\approx 37.76^\circ$