

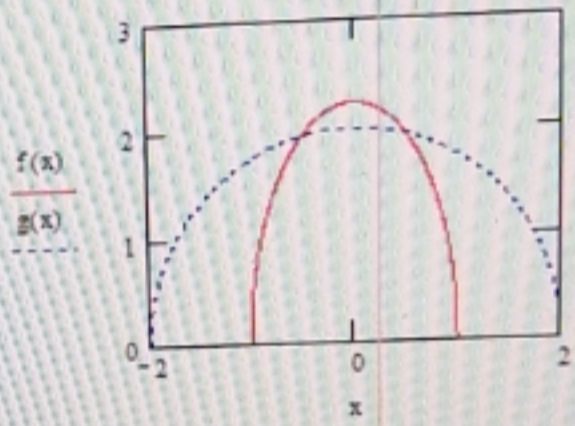
100% ?

10 B I U

Arial

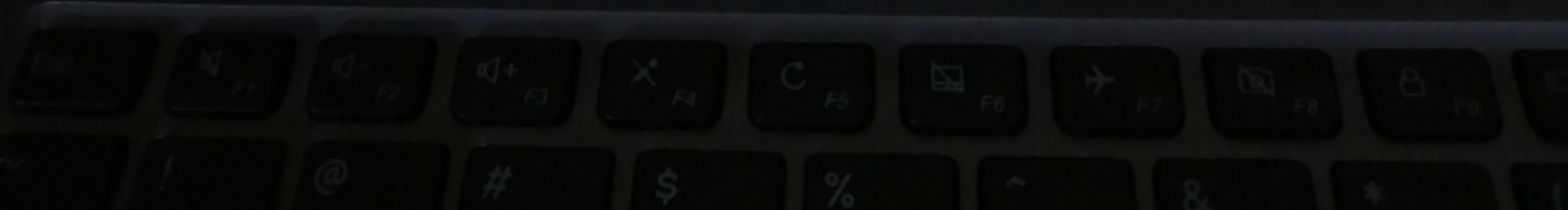
$$f(x) := \sqrt{5 - 5x^2}$$

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



Press F1 for help.

Lenovo



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Petroleum
18/ENR07/03

$$5 - 5x^2 = 4 - x^2$$

$$5 - 4 = -x^2 + 5x^2$$

$$1 = 4x^2$$

$$4x^2 - 1 = 0$$

$$x_1 = \frac{1}{2} \quad x_2 = -\frac{1}{2}$$

$$y^2 = x + 4$$

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

$$y = \sqrt{x+4}$$

$$y = \sqrt{4-x^2}$$

$$y_1^2 = 5 - 5x^2$$

$$y_1 = \sqrt{5 - 5x^2}$$

$$y_1 = \sqrt{5 - 5\left(\frac{1}{2}\right)^2}$$

$$y_1 = 1.94$$

$$y_2 = \sqrt{5 - 5\left(-\frac{1}{2}\right)^2}$$

$$y_2 = 1.94$$

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

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

$$\frac{dy}{dx} = \frac{-10(0.5)}{2(1.94)}$$

$$\frac{dy}{dx} = -1.29$$

$$\theta_1 = \tan^{-1}(-1.29)$$

$$\theta_1 = -52.22$$

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

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

$$\frac{dy}{dx} = \frac{-2(0.5)}{2(1.94)}$$

$$= -0.26$$

$$\theta_2 = \tan^{-1}(-0.26)$$

$$\theta_2 = -14.57^\circ$$

$$\text{The total angle} = \theta_2 - \theta_1 \\ = 14.57 - (-52.22) = 66.79$$