

NAME: RAJI ABDUL-MUIZ MOBOLAJI

Matric NO: 18/ENQ08/019

Course: ENG281

①  $5x^2 + y^2 = 5$

$$x^2 + y^2 = 1$$

$$x^2 = 1$$

$$x = \pm 0.5$$

$$y = \pm 0.5$$

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

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

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

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

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

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

Find the  $dy/dx$  of eqn ① and ②

①  $5x^2 + y^2 = 5$

$$\frac{dy}{dx} = \frac{-10x}{2y} = \frac{-10(0.5)}{2(1.93)} = -1.295$$

2-  $x^2 + y^2 = 1$

$$\frac{dy}{dx} = \frac{-2x}{2y} = \frac{-2(0.5)}{2(1.93)} = -0.25$$

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

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

$$\theta_1 = \tan^{-1}(-1.295)$$

$$\theta_1 = -52.32$$

$$\theta_2 = \tan^{-1}(-0.25)$$

$$\theta_2 = -14.52$$

$$\therefore \theta = |\theta_1 - \theta_2|$$

$$= |-52.32 - (-14.52)|$$

$$\theta = \frac{37.8}{3} //$$



Software toolbar with icons for undo, redo, copy, paste, and other functions. A dropdown menu is open showing 'Anal' and '10'.

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

