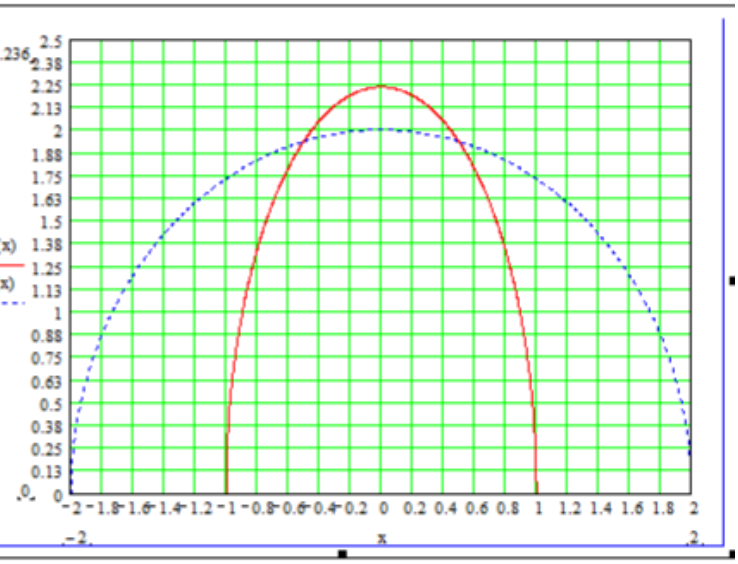
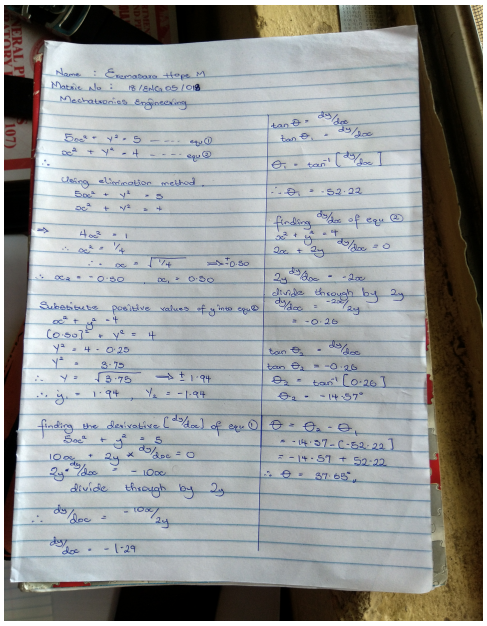
$:= \sqrt{5 - 5x^2}$ $g(x) := \sqrt{4 - x^2}$





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$5\alpha^2 + y^2 = 5$ ---- equ①
$\alpha^2 + y^2 = 4$ ---- equ②

Using elimination method,
$5\alpha^2 + y^2 = 5$
$\alpha^2 + y^2 = 4$

$4\alpha^2 = 1$
$\therefore \alpha^2 = 1/4$
$\therefore \alpha = \sqrt{1/4} \Rightarrow \pm 0.50$
$\therefore \alpha_2 = -0.50$, $\alpha_1 = 0.50$

Substitute positive values of α into equ②
$\alpha^2 + y^2 = 4$
$[0.50]^2 + y^2 = 4$
$y^2 = 4 - 0.25$
$y^2 = 3.75$
$\therefore y = \sqrt{3.75} \Rightarrow \pm 1.94$
$\therefore y_1 = 1.94$, $y_2 = -1.94$

finding the derivative $[d\alpha/d\alpha]$ of equ①
$5\alpha^2 + y^2 = 5$
$10\alpha + 2y \times d\alpha/d\alpha = 0$
$2y\, d\alpha/d\alpha = -10\alpha$
divide through by $2y$
$\therefore d\alpha/d\alpha = -10\alpha/2y$
$d\alpha/d\alpha = -1.29$

$\tan\theta = d\alpha/d\alpha$
$\tan\theta_1 = d\alpha/d\alpha$
$\theta_1 = \tan^{-1}[d\alpha/d\alpha]$
$\therefore \theta_1 = 52.22$

finding $d\alpha/d\alpha$ of equ②
$\alpha^2 + y^2 = 4$
$2\alpha + 2y\, d\alpha/d\alpha = 0$
$2y\, d\alpha/d\alpha = -2\alpha$
divide through by $2y$
$d\alpha/d\alpha = -2\alpha/2y$
$= -0.26$

$\tan\theta_2 = d\alpha/d\alpha$
$\tan\theta_2 = -0.26$
$\theta_2 = \tan^{-1}[0.26]$
$\theta_2 = -14.57°$

$\theta = \theta_2 - \theta_1$
$= -14.57 - (-52.22)$
$= -14.57 + 52.22$
$\therefore \theta = 37.65°$