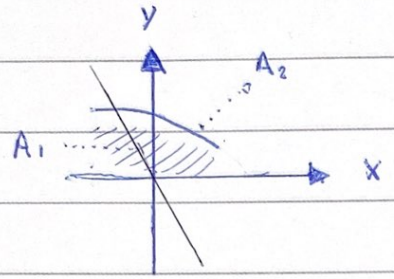
NOME: Lucca Chermont Casalecchi

RA: 11202021900



$\boxed{x = -y}$ e $\boxed{x = 2 - y^2}$

- Sistema para ponto de intersecção $\begin{cases} x = -y \\ x = 2 - y^2 \end{cases}$

$\therefore \quad -y = 2 - y^2 \rightarrow y^2 - y - 2 = 0$

$\Delta = 1^2 - 4.1.(-2) = 9$

$x = \frac{-1+3}{2} \quad \therefore x_1 = 1$ e $x_{11} = -2$

$A_1 = \int_{-2}^{0} (-y - (2 - y^2))\, dx$

$A_1 = -\frac{y^2}{2} - 2x + \frac{y^3}{3} \Big|_{-2}^{0}$

$A_1 = 0 - \left(\frac{-2^2}{2} - 2.2 + (-2^3/3)\right)$

$A_1 = \frac{6 + 12 + 8}{3}$

$A_1 = 26/3$

$A_2 = \int_{0}^{\sqrt{2}} (2 - y^2)\, dx$

$A_2 = 2x - \frac{y^3}{3} \Big|_{0}^{\sqrt{2}}$

$A_2 = 2\sqrt{2} - \frac{\sqrt{2}^3}{3}$

$A_2 = \boxed{2\sqrt{2} - 2\sqrt{2}/3}$

$A_T = A_1 + A_2 \rightarrow A_T = \frac{26}{3} + 2\sqrt{2} - \frac{2\sqrt{2}}{3} \quad \times(3)$

$A_T = \frac{26}{3} - 4\sqrt{2} \rightarrow \boxed{A_T \cong 3,0098}$