Questao 2

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$$\int \frac{\cos t}{\sqrt{1+\operatorname{sen}^2 t}}\,dt =$$

$$\boxed{\begin{aligned} u &= \operatorname{sen} t \\ du &= \cos t\,dt \end{aligned}}$$

$$\int \frac{1}{\sqrt{1+u^2}}\,du$$

$$u = \sqrt{1}\cdot \operatorname{tg}\theta$$

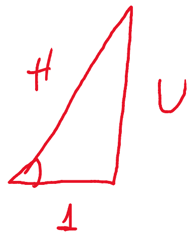
$$du = \sec^2\theta\,d\theta$$

$$\int \frac{\sec^2\theta}{\sqrt{1+\operatorname{Tg}^2\theta}} = \int \frac{\sec^2\theta}{\sqrt{\sec^2\theta}}$$

$$\boxed{\sec^2\theta = \operatorname{tg}^2\theta + 1}$$

$$\int \frac{\sec^{\cancel{2}}\theta}{\cancel{\sec\theta}}\,d\theta = \boxed{\int \sec\theta\,d\theta}$$

$$\ln|\sec\theta + \operatorname{Tg}\theta| + C$$



$$H^2 = U^2 + 1$$

$$H = \sqrt{U^2+1}$$

$$U = 1\cdot \operatorname{tg}\theta$$

$$\boxed{\frac{U}{1} = \operatorname{tg}\theta}$$

$$S = \frac{O}{H} \quad C = \frac{A}{H} \quad T = \frac{O}{A}$$

$$C = \frac{1}{\sqrt{U^2+1}} \quad T = \frac{U}{1}$$

$$\sec\theta = \frac{1}{\cos\theta}$$

$$\sec\theta = \frac{1}{1}\cdot\sqrt{U^2+1}$$

$$\boxed{\sec\theta = \sqrt{U^2+1}}$$

$$\ln\left|\sqrt{U^2+1} + \frac{U}{1}\right| + C$$

$$\ln\left|\sqrt{\operatorname{sen}^2 T+1} + \frac{\operatorname{sen} T}{1}\right| + C$$

$$\left(\ln\left|\sqrt{\operatorname{sen}^2\tfrac{\pi}{2}+1} + \operatorname{sen}\tfrac{\pi}{2}\right|\right) - \cancel{\left(\ln\left|\sqrt{\operatorname{sen}^2 0+1} + \operatorname{sen} 0\right|\right)}\ 0$$

$0,88137 - 0 = \boxed{0,88137}$