

CÁLCULO II

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1 Ejercicio 6.5-Relación 6. Calcula las siguientes integrales:

$$\text{II)} \int_{1/4}^{3/4} \frac{\arcsen(x)}{\sqrt{1-x^2}} dx \quad t=\arcsen(x) \quad dt=1/\sqrt{1-x^2} dx \Rightarrow \int_{\arcsen(1/4)}^{\arcsen(3/4)} t \cdot dt dx =$$

$$\frac{t^2}{2} \Big|_{\arcsen(1/4)}^{\arcsen(3/4)} = \frac{\arcsen^2(3/4) - \arcsen^2(1/4)}{2}$$

$$\text{m)} \int_0^{1/2} \frac{1}{\sqrt[2]{20+8x-x^2}} dx = \int_0^{1/2} \frac{dx}{\sqrt[2]{6^2-(x-4)^2}} = \int_0^{1/2} \frac{dx}{\sqrt[2]{1-(\frac{x-4}{6})^2}} = \arcsen\left(\frac{x-4}{6}\right) \Big|_0^{1/2} =$$
$$\arcsen\left(\frac{-7}{6}\right) = \arcsen\left(\frac{-2}{3}\right)$$