

$$\int \frac{\text{sen } x}{1 + \cos^2 x} dx =$$

INT-S1-040

TIPO : $\int \frac{f'(x)}{1+f^2(x)} dx = \text{arctg } f(x) + k$

SOSTITUZIONE $\cos x = z$

NON ESPlicito x

$$z = \cos x$$

$$z' = \frac{dz}{dx} = -\text{sen } x \rightarrow dx = -\frac{1}{\text{sen } x} dz$$

$$= \int \frac{\cancel{\text{sen } x}}{1+z^2} \cdot \frac{1}{-\cancel{\text{sen } x}} dz =$$

$$= - \int \frac{1}{1+z^2} dz = - \text{arctg } z + k =$$

$$= \boxed{- \text{arctg}(\cos x) + k}$$