• $\int \frac{\sqrt{x}}{1+x}\,dx$ ; Utilizar C.V.

C.V: $x = t^2 \Rightarrow dx = 2t\,dt$

$$\int \frac{\sqrt{x}}{1+x}\,dx = \int \frac{\sqrt{t^2}}{1+t^2}\cdot 2t\,dt =$$

$$= \int \frac{2t^2}{1+t^2}\,dt = 2\int \frac{t^2}{t^2+1}\,dt = (*)$$

$$\begin{array}{r|l} t^2 & t^2+1 \\ \hline t^2+1 & 1 \\ \hline 0 \quad -1 & \end{array}$$

$$(*) = 2\int \left(1 + \frac{-1}{t^2+1}\right) dt =$$

$$= 2\left(t - \operatorname{arctg} t\right) + C =$$

$x = t^2 \Rightarrow t = \sqrt{x}$

$$= 2\left(\sqrt{x} - \operatorname{arctg}\sqrt{x}\right) + C$$