

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

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

$$\left\| \begin{array}{l} x=t^2 \\ dx=2t dt \end{array} \right\|$$

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

$$\frac{t}{t+1} \quad \frac{t+1}{1}$$

$$0-1$$

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

$$= 2(t - \ln|t+1|) + C =$$

$$= 2(\sqrt{x} - \ln|\sqrt{x}+1|) + C$$

$$\uparrow$$

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