

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

$$\int \frac{x}{\sqrt{x+1}} dx = \int \frac{t^2-1}{\sqrt{t^2}} 2t dt = 2 \int (t^2-1) dt = \textcircled{*}$$

$$\begin{array}{l} x+1 = t^2 \\ x = t^2 - 1 \\ dx = 2t dt \end{array}$$

$$\begin{array}{l} x+1 = t^2 \\ \Rightarrow t = \sqrt{x+1} \end{array}$$

$$\textcircled{*} = 2 \left[\frac{t^3}{3} - t \right] + C = 2 \left[\frac{\sqrt{x+1}^3}{3} - \sqrt{x+1} \right] + C$$

$$\int t^n dt = \frac{t^{n+1}}{n+1} + C \quad t \neq -1$$