

$$\#) \int x \sqrt{x^2 + 1} \, dx$$

misal $x^2 + 1 = t$

$$2x \, dx = dt$$

$$dx = \frac{1}{2x} \cdot dt$$

$$= \int x \cdot \sqrt{t} \cdot \frac{1}{2x} \cdot dt$$

$$= \frac{1}{2} \int (t)^{1/2} dt$$

$$= \frac{1}{2} \left[\frac{2t\sqrt{t}}{3} + C \right]$$

$$= \frac{t\sqrt{t}}{3} + C$$

$$= \frac{(x^2 + 1)\sqrt{x^2 + 1}}{3} + C$$