

24/11/2024 → INTERGRAL
INTERGRAL

- LESZONI

→ INTERGRAL ISZO NEVEZETES

→ PAG. 89

PAG. 102 ES. 127

$$\int \left(x + \frac{1}{2x^2+2} \right) dx$$

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

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

$$= \frac{x^2}{2} + \frac{1}{2} \arctan x + C$$

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

$$\left[\begin{array}{l} x = \frac{x^2}{2} \\ \rightarrow \frac{x^{q+1}}{q+1} \end{array} \right] \quad e \quad \left[\begin{array}{l} \int k dx \\ = k + c \end{array} \right]$$

$$\left[\frac{1}{x^2 + 1} \right] = \arctan(x)$$

$$\int \frac{f'(x)}{[f(x)]^2 + 1} \cdot dx = \arctan f(x) + c$$

$$\boxed{\text{PAG. 102 SS. 128}}$$

↓ RACCOLGIMENTO
A FATTO.
GRUPPO (16)

$$\int \frac{1}{\sqrt{16 - 16x^2}} = \int \frac{16 - 16x^2}{16(1 - x^2)}$$

$$= \int \frac{1}{\sqrt{16(1 - x^2)}} = \int \frac{1}{4\sqrt{1 - x^2}}$$

$$= \frac{1}{4} \int \left(\frac{1}{\sqrt{1-x^2}} \right) dx = \frac{1}{4} \arcsin(x) + C$$

\uparrow
 $\arcsin(x)$