- POTENZE $\sqrt{x} = x^{1/2} + c$

$$\int x^5 = \frac{x^{5+1}}{5+1} = \frac{x^6}{6} + c$$

- LOGARITMI

$$\int \frac{1}{x}\,dx = \ln(x) + c$$

- ESPONENZIALI

$$\int e^x = e^x + c$$

- GONIOMETRICHE

$$\int \sin(x) = -\cos(x) + c$$

$$\int \cos(x) = \sin(x) + c$$

130 $\int \frac{(x-2)^2}{x^2}\,dx$

QUADRATO DI BINOMIO

$x^2 + 4 - 4x$ $\quad (a^2+b^2+2ab)$

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

$= \int (x-2)^2 \cdot \int x^{-2}$

↑ CI'Ò ANCHE LUI

$= \frac{(x-2)^3}{3} \cdot \frac{x^2}{2} \cdot -x^{-1}$

131 $\int (3-\sqrt{x})(3+\sqrt{x})\,dx$

$= \int 9 + 3\sqrt{x} - 3\sqrt{x} + x \, dx$

$= \int 9\,dx + \int \sqrt{x}\,dx$

$= 9\int dx + \int x^{1/2}\,dx$

$$= 9x + \frac{x^{1/2+1}}{1/2+1}$$

$$= 9x + \frac{x^{3/2}}{3/2} + C$$

121 $\int (x^2 + 2\sin x - e^x - 1)\,dx$

$$\frac{x^3}{3} - 2\cos(x) - e^x - x + C$$

50 $\int \frac{\sqrt{x}+1}{\sqrt{x}}\,dx$

$$\int (x^{1/2} + 1) \cdot \int x^{-1/2}$$

$$= \int x^{1/2} + \int (1) \cdot \int x^{-1/2}$$

$$\left(\frac{x^{3/2}}{3/2} + x\right) \cdot \frac{x^{1/2}}{1/2}$$

$$\int \sqrt{x^3} \cdot \sqrt{x^4}$$

$$= \int \sqrt{x^6} \cdot \int \sqrt{x^4}$$

$$= \int (x^3)^{1/2} \longrightarrow \text{POTENZA DI POTENZA}$$

$$(x^a)^b \quad \frac{a \cdot b}{}$$

$$x^{3 \cdot \frac{1}{2}} = x^{3/2} \quad x^3 \cdot x^{1/2}$$

[PRODOTTO TRA POTENZE

$$x^a \cdot x^b = x^{a+b} \ ]$$

$$\sqrt[2]{(x^4)} \Rightarrow x^{\frac{2}{4} \cdot \frac{1}{2}} = x^2$$

$$\int x^2 \Rightarrow \frac{x^3}{3}$$

PRODOTTO

$$x^{3/2} \cdot \frac{x^3}{3}$$

$$\frac{3}{2}+3 = \frac{3+6}{2} = \frac{9}{2}$$

$$= \frac{x^{9/2}}{3} + C$$

133 $\int \frac{t^8+1}{t^9}\,dt$ $\Rightarrow$ SCOMPONI

$$= \int \frac{t^8}{t^9}\,dt + \int \frac{1}{t^9}\,dt$$

$$= \int \left(\frac{1}{t}\right) + \int \left(t^{-9}\right) \rightarrow \text{POTENZA}$$

$$\ln(t)$$

$$= \ln(A) + \frac{A^{-8}}{-8} = \ln(A) - \frac{1}{8}A^{-8}$$

140 $\int \left(\frac{1}{\sin\alpha} - 1\right)\sin\alpha \, d\alpha$

$$= \int \frac{\sin\alpha}{\sin\alpha} - \int \sin\alpha \, d\alpha$$

$$= \int 1 \, d\alpha - \cos\alpha + C$$

$$= \alpha - \cos\alpha + C$$

94 $\int \frac{2 - 2\cos^2 x + \sin x}{\sin x} dx$

$$= \int \frac{2}{\sin(x)} - \int \frac{2\cos^2 x}{\sin(x)} + \int \frac{\sin(x)}{\sin(x)}$$

$$= (2) \int \sin(x)^{-1} - 2 \int \frac{\cos^2(x)}{\sin(x)}$$

$$+ \int 1$$

$$= 2\left(\frac{\cos(x)^{-1}}{-1}\right)$$

$$- 2\left[\int \cos^2(x) \cdot \int \sin^{(-1)}(x)\right]$$

$$+ X \left[\cos^2(x) \cdot \frac{\cos^3(x)}{3} \cdot \sin(x)\right]$$

2 FUNKTION.

$$= \frac{-2}{\cos(x)} - 2\left[\frac{\cos^3(x)}{3} \cdot \sin(x)\right]$$

$$+ x$$