

## FORMULAS FUNDAMENTALES DE INTEGRACION

$$\textcircled{1} \int \frac{d}{dx} (F(x)) dx = F(x) + C$$

$$\textcircled{2} \int (u+v) dx = \int u dx + \int v dx$$

$$\textcircled{3} \int a u du = a \int u du \quad a = \text{cte}$$

$$\textcircled{4} \int u^m du = \frac{u^{m+1}}{m+1} + C \quad m \neq -1$$

$$\textcircled{5} \int \frac{du}{u} = \ln|u| + C$$

$$\textcircled{6} \int a^u du = \frac{a^u}{\ln a} + C \quad a \neq 0, a > 0$$

$$\textcircled{7} \int e^u du = e^u + C$$

$$\textcircled{8} \int \sin u du = -\cos u + C$$

$$\textcircled{9} \int \cos u du = \sin u + C$$

$$\textcircled{10} \int \tan u du = \ln|\sec u| + C$$

$$\textcircled{11} \int \cot u du = \ln|\sin u| + C$$

$$\textcircled{12} \int \sec u du = \ln|\sec u + \tan u| + C$$

$$\textcircled{13} \int \csc u du = \ln|\csc u - \cot u| + C$$

$$\textcircled{14} \int \sec^2 u du = \tan u + C$$

$$\textcircled{15} \int \csc^2 u du = -\cot u + C$$

$$\textcircled{16} \int \sec u \cdot \tan u du = \sec u + C$$

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$$(17) \int \csc u \cot u = -\csc u + C$$

$$(27) \int \sqrt{u^2 - a^2} du = \frac{1}{2} u \sqrt{u^2 - a^2}$$

$$(18) \int \frac{du}{\sqrt{a^2 - u^2}} = \arcsin \frac{u}{a} + C$$

$$- \frac{1}{2} a^2 \ln |u + \sqrt{u^2 - a^2}| + C$$

$$(19) \int \frac{du}{a^2 + u^2} = \frac{1}{a} \arctan \frac{u}{a} + C$$

$$(20) \int \frac{du}{u \sqrt{u^2 - a^2}} = \frac{1}{a} \operatorname{arcsec} \frac{u}{a} + C$$

$$(21) \int \frac{du}{u^2 - a^2} = \frac{1}{2a} \ln \left| \frac{u-a}{u+a} \right| + C$$

$$(22) \int \frac{du}{a^2 - u^2} = \frac{1}{2a} \ln \left| \frac{a+u}{a-u} \right| + C$$

$$(23) \int \frac{du}{\sqrt{u^2 + a^2}} = \ln (u + \sqrt{u^2 + a^2}) + C$$

$$(24) \int \frac{du}{\sqrt{u^2 - a^2}} = \ln |u + \sqrt{u^2 - a^2}| + C$$

$$(25) \int \sqrt{a^2 - u^2} du = \frac{1}{2} u \sqrt{a^2 - u^2} + \frac{1}{2} a^2 \arcsin \frac{u}{a} + C$$

$$(26) \int \sqrt{u^2 + a^2} du = \frac{1}{2} u \sqrt{u^2 + a^2} + \frac{1}{2} a^2 \ln (u + \sqrt{u^2 + a^2}) + C$$