

1. $\int k \, dx = kx + C$, k es una constante

2. a) $\int x^n \, dx = \frac{1}{n+1} x^{n+1} + C$, $n \neq -1$ b) $\int \frac{1}{x} \, dx = \ln |x| + C$

3. a) $\int a^x \, dx = \frac{a^x}{\ln a} + C$, $a > 0$, $a \neq 1$ b) $\int e^x \, dx = e^x + C$

4. Integrales de las funciones trigonométricas básicas.

a) $\int \sin x \, dx = -\cos x + C$

b) $\int \cos x \, dx = \sin x + C$

c) $\int \tan x \, dx = -\ln |\cos x| + C$

d) $\int \csc x \, dx = \ln |\csc x - \cot x| + C$

e) $\int \sec x \, dx = \ln |\sec x + \tan x| + C$

f) $\int \cot x \, dx = \ln |\sin x| + C$

5. Integrales de otras funciones trigonométricas.

a) $\int \sec^2 x \, dx = \tan x + C$

b) $\int \csc^2 x \, dx = -\cot x + C$

c) $\int \sec x \tan x \, dx = \sec x + C$

d) $\int \csc x \cot x \, dx = -\csc x + C$

6. Integrales de $\frac{1}{a^2 \pm x^2}$.

a) $\int \frac{1}{a^2 + x^2} \, dx = \frac{1}{a} \arctan \frac{x}{a} + C$, $a > 0$

b) $\int \frac{1}{a^2 - x^2} \, dx = \frac{1}{2a} \ln \left| \frac{x+a}{x-a} \right| + C$, $a > 0$

7. Algunas integrales que contienen $\sqrt{a^2 \pm x^2}$.

a) $\int \frac{dx}{\sqrt{a^2 + x^2}} = \ln |x + \sqrt{a^2 + x^2}| + C = \sinh^{-1} \frac{x}{a} + C$

b) $\int \frac{dx}{\sqrt{a^2 - x^2}} = \arcsin \frac{x}{a} + C$, $a > 0$

c) $\int \frac{dx}{\sqrt{x^2 - a^2}} = \ln(x + \sqrt{x^2 - a^2}) + C$

d) $\int \frac{dx}{x\sqrt{x^2 - a^2}} = \frac{1}{a} \operatorname{arcsec} \frac{x}{a} + C$

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

f) $\int \sqrt{a^2 - x^2} \, dx = \frac{x}{2} \sqrt{a^2 - x^2} + \frac{a^2}{2} \arcsin \frac{x}{a} + C$

g) $\int \sqrt{x^2 + a^2} \, dx = \frac{x}{2} \sqrt{x^2 + a^2} + \frac{a^2}{2} \ln(x + \sqrt{x^2 + a^2}) + C$

h) $\int \sqrt{x^2 - a^2} \, dx = \frac{x}{2} \sqrt{x^2 - a^2} - \frac{a^2}{2} \ln(x + \sqrt{x^2 - a^2}) + C$