Tabla de Integrales y Funciones Trigonométricas.

1. $\int dx = x + C$
2. $\int k\,dx = kx + C$, k constante
3. $\int x^n\,dx = \dfrac{x^n+1}{n+1} + C$, $n \neq -1$
4. $\int \dfrac{1}{x}\,dx = \ln|x| + C$
5. $\int e^x\,dx = e^x$
6. $\int a^x\,dx = \dfrac{a^x}{\ln a} + C$, $a > 0$
7. $\int \sin x\,dx = -\cos x + C$
8. $\int \cos x\,dx = \sin x + C$
9. $\int \tan x\,dx = \ln|\sec x| + C$
10. $\int \cot x\,dx = \ln|\sin x| + C$
11. $\int \sec x\,dx = \ln|\sec x + \tan x| + C$
12. $\int \csc x\,dx = \ln|\csc x - \cot x| + C$
13. $\int \sec^2 x\,dx = \tan x + C$
14. $\int \csc^2 x\,dx = -\cot x + C$
15. $\int \sec x \tan x\,dx = \sec x + C$
16. $\int \csc x \cot x\,dx = -\csc x + C$
17. $\int \dfrac{1}{a^2+x^2}\,dx = \dfrac{1}{a}\arctan\dfrac{x}{a} + C$
18. $\int \dfrac{1}{a^2-x^2}\,dx = -\dfrac{1}{2a}\ln\left|\dfrac{x-a}{x+a}\right| + C$
19. $\int \dfrac{1}{x^2-a^2}\,dx = \dfrac{1}{2a}\ln\left|\dfrac{x-a}{x+a}\right| + C$
20. $\int \dfrac{1}{\sqrt{a^2-x^2}}\,dx = \operatorname{arc\,sen}\dfrac{x}{a} + C$
21. $\int \dfrac{1}{\sqrt{x^2 \pm a^2}}\,dx = \ln(x + \sqrt{x^2 \pm a^2}) + C$
22. $\int \sqrt{a^2-x^2}\,dx = \dfrac{x}{2}\sqrt{a^2-x^2} + \dfrac{a^2}{2}\arcsin\dfrac{x}{a} + C$
23. $\int \sqrt{x^2 \pm a^2}\,dx = \dfrac{x}{a}\sqrt{x^2 \pm a^2} \pm \dfrac{a^2}{2}\ln(x + \sqrt{x^2 \pm a^2}) + C$

Fórmula de Sustitución.

$$\int g(f(x))f'(x)\,dx = \int g(u)\,du, \text{ donde el cambio de variables de } u = f(x).$$

Fórmula de Integración por Partes.

$$\int u\,dv = uv - \int v\,du.$$

Identidades Trigonométricas.

1. $\sin^2 x + \cos^2 x = 1$
2. $\tan x = \dfrac{\sin x}{\cos x}$
3. $\cot x = \dfrac{\cos x}{\sin x}$
4. $\sec x = \dfrac{1}{\cos x}$
5. $\csc x = \dfrac{1}{\sin x}$
6. $\sec^2 x = 1 + \tan^2 x$
7. $1 + \cot^2 x = \csc^2 x$
8. $\sin(2x) = 2\sin x \cos x$
9. $\cos(2x) = \cos^2 x - \sin^2 x$
10. $\tan(2x) = \dfrac{2\tan x}{1 - \tan^2 x}$
11. $\sin^2 x = \dfrac{1 - \cos(2x)}{2}$
12. $\cos^2 x = \dfrac{1 + \cos(2x)}{2}$
13. $\tan^2 x = \dfrac{1 - \cos(2x)}{1 + \cos(2x)}$
14. $\sin(2x) = \dfrac{2\tan x}{1 + \tan^2 x}$
15. $\cos(2x) = \dfrac{1 - \tan^2 x}{1 + \tan^2 x}$.

Otras Identidades.

1. $\sin(x \pm y) = \sin x \cos y \pm \sin y \cos x$
2. $\cos(x \pm y) = \cos x \cos y \mp \sin x \sin y$
3. $\tan(x \pm y) = \dfrac{x \pm \tan y}{1 \mp \tan x \tan y}$
4. $\sin x \sin y = \dfrac{1}{2}\left(\cos(x - y) - \cos(x + y)\right)$
5. $\sin x \cos y = \dfrac{1}{2}(\sin(x + y) + \sin(x - y))$
6. $\cos x \cos y = \dfrac{1}{2}(\cos(x + y) + \cos(x - y))$

Fórmulas de Recurrencia. $n \in \mathbb{N}, n \geq 2$

1. $\displaystyle\int \sin^n x\, dx = \frac{1}{n}\left(-\cos x \sin^{n-1} x + (n-1)\int \sin^{n-2} x\, dx\right),$
2. $\displaystyle\int \cos^n x\, dx = \frac{1}{n}\left(\sin x \cos^{n-1} x + (n-1)\int \cos^{n-2} x\, dx\right),$
3. $\displaystyle\int \tan^n x\, dx = \frac{1}{n-1}\left(\tan^{n-1} x - (n-1)\int \tan^{n-2} x\, dx\right),$
4. $\displaystyle\int \sec^n x\, dx = \frac{1}{n-1}\left(\sec^{n-2} x \tan x + (n-2)\int \sec^{n-2} x\, dx\right).$

Sustituciones Trigonométricas. a, b constantes reales positivas

1. $a^2 - b^2x^2, \qquad x = \dfrac{a}{b}\sin z, dx = \dfrac{a}{b}\cos z\, dz$
2. $b^2x^2 - a^2, \qquad x = \dfrac{a}{b}\sec z, dx = \dfrac{a}{b}\sec z \tan z\, dz$
3. $a^2 + b^2x^2, \qquad x = \dfrac{a}{b}\tan z, dx = \dfrac{a}{b}\sec^2 z\, dz$

Tabla de Derivadas.

1. $\dfrac{d}{dx}(u \cdot v) = \dfrac{du}{dx}v + u\dfrac{dv}{dx}$
2. $\dfrac{d}{dx}\left(\dfrac{u}{v}\right) = \dfrac{\frac{du}{dx}v - u\frac{dv}{dx}}{v^2}$
3. $\dfrac{d}{dx}(\ln v) = \dfrac{1}{v}\dfrac{dv}{dx}$
4. $\dfrac{d}{dx}(a^v) = a^v \ln a \dfrac{dv}{dx}$
5. $\dfrac{d}{dx}(e^v) = e^v \dfrac{dv}{dx}$
6. $\dfrac{d}{dx}(u^v) = vu^{v-1}\dfrac{du}{dx} + u^v \ln u \dfrac{dv}{dx}$
7. $\dfrac{d}{dx}(\sin v) = \cos v\dfrac{dv}{dx}$
8. $\dfrac{d}{dx}(\cos v) = -\sin v\dfrac{dv}{dx}$
9. $\dfrac{d}{dx}(\tan v) = \sec^2 v\dfrac{dv}{dx}$
10. $\dfrac{d}{dx}(\cot v) = -\csc^2 v\dfrac{dv}{dx}$
11. $\dfrac{d}{dx}(\sec v) = \sec v \tan v\dfrac{dv}{dx}$
12. $\dfrac{d}{dx}(\csc v) = -\csc v \cot v\dfrac{dv}{dx}$
13. $\dfrac{d}{dx}(\arcsin v) = \dfrac{1}{\sqrt{1-v^2}}\dfrac{dv}{dx}$
14. $\dfrac{d}{dx}(\arc\cos v) = -\dfrac{1}{\sqrt{1-v^2}}\dfrac{dv}{dx}$
15. $\dfrac{d}{dx}(\arctan v) = \dfrac{1}{a+v^2}\dfrac{dv}{dx}$
16. $\dfrac{d}{dx}(\operatorname{arccot} v) = -\dfrac{1}{1+v^2}\dfrac{dv}{dx}$
17. $\dfrac{d}{dx}(\operatorname{arcsec} v) = \dfrac{1}{v\sqrt{v^2-1}}\dfrac{dv}{dx}$
18. $\dfrac{d}{dx}(\operatorname{arccsc} v) = -\dfrac{1}{v\sqrt{v^2-1}}\dfrac{dv}{dx}$