1. $\int kf(u)\,du = k\int f(u)\,du$

2. $\int [f(u) \pm g(u)]\,du = \int f(u)\,du \pm \int g(u)\,du$

3. $\int du = u + C$

4. $\int u^n\,du = \dfrac{u^{n+1}}{n+1} + C, \quad n \neq -1$

5. $\int \dfrac{1}{u}\,du = \ln|u| + C$

6. $\int e^u\,du = e^u + C$

7. $\int a^u\,du = \left(\dfrac{1}{\ln a}\right) a^u + C$

8. $\int \operatorname{sen} u\,du = -\cos u + C$

9. $\int \cos u\,du = \operatorname{sen} u + C$

10. $\int \tan u\,du = -\ln|\cos u| + C = \ln|\sec u| + C$

11. $\int \cot u\,du = \ln|\operatorname{sen} u| + C$

12. $\int \sec u\,du = \ln|\sec u + \tan u| + C$

13. $\int \csc u\,du = -\ln|\csc u + \cot u| + C$

14. $\int \sec^2 u\,du = \tan u + C$

15. $\int \csc^2 u\,du = -\cot u + C$

16. $\int \sec u \tan u\,du = \sec u + C$

17. $\int \csc u \cot u\,du = -\csc u + C$

18. $\int u \cdot dv = u \cdot v - \int v \cdot du$

Diferenciales binómicas

$$\int x^m\left(a + bx^n\right)^{\frac{r}{s}}$$

Caso 1:

$$\frac{m+1}{n}$$

Sea: $a + bx^n = z^s$

Diferenciales binómicas:
La suma debe ser entero.

Caso 2:

Sea: $a + bx^n = z^s x^n$

Despejamos 'x': $x = \left(\dfrac{a}{z^s - b}\right)^{\frac{1}{n}}$

$$dx = -\frac{1}{n} a^{\frac{1}{n}}\left(z^s - b\right)\left(sz^{s-1}\right)dz$$

Al aplicar el cambio de variable luce:

$$a + bx^n = z^s\left[a\left(z^s - b\right)^{-1}\right]$$

$$z = \tan\left(\frac{1}{2}x\right) \qquad sen(x) = \frac{2z}{1+z^2}$$

$$x = 2\arctan(z)$$

$$dx = \frac{2\,dz}{z^2+1} \qquad \cos(x) = \frac{1-z^2}{1+z^2}$$

Funciones irracionales

$$x = z^{mcm}$$

Identidades fundamentales

$$\csc\theta = \frac{1}{\text{sen}\,\theta} \qquad \sec\theta = \frac{1}{\cos\theta}$$

$$\tan\theta = \frac{\text{sen}\,\theta}{\cos\theta} \qquad \cot\theta = \frac{\cos\theta}{\text{sen}\,\theta}$$

$$\cot\theta = \frac{1}{\tan\theta} \qquad \text{sen}^2\theta + \cos^2\theta = 1$$

$$1 + \tan^2\theta = \sec^2\theta \qquad 1 + \cot^2\theta = \csc^2\theta$$

$$\text{sen}(-\theta) = -\text{sen}\,\theta \qquad \cos(-\theta) = \cos\theta$$

$$\tan(-\theta) = -\tan\theta \qquad \text{sen}\left(\frac{\pi}{2} - \theta\right) = \cos\theta$$

$$\cos\left(\frac{\pi}{2} - \theta\right) = \text{sen}\,\theta \qquad \tan\left(\frac{\pi}{2} - \theta\right) = \cot\theta$$

Trigonometría de ángulo recto

$$\text{sen}\,\theta = \frac{\text{op}}{\text{hip}} \qquad \csc\theta = \frac{\text{hip}}{\text{op}}$$

$$\cos\theta = \frac{\text{ady}}{\text{hip}} \qquad \sec\theta = \frac{\text{hip}}{\text{ady}}$$

$$\tan\theta = \frac{\text{op}}{\text{ady}} \qquad \cot\theta = \frac{\text{ady}}{\text{op}}$$

Fórmulas de adición y sustracción

$$\text{sen}(x + y) = \text{sen}\,x\cos y + \cos x\,\text{sen}\,y$$

$$\text{sen}(x - y) = \text{sen}\,x\cos y - \cos x\,\text{sen}\,y$$

$$\cos(x + y) = \cos x\cos y - \text{sen}\,x\,\text{sen}\,y$$

$$\cos(x - y) = \cos x\cos y + \text{sen}\,x\,\text{sen}\,y$$

Fórmulas de ángulo doble

$$\text{sen}\,2x = 2\,\text{sen}\,x\cos x$$

$$\cos 2x = \cos^2 x - \text{sen}^2 x = 2\cos^2 x - 1 = 1 - 2\,\text{sen}^2 x$$

$$\tan 2x = \frac{2\tan x}{1 - \tan^2 x}$$

Fórmulas de semiángulo

$$\text{sen}^2 x = \frac{1 - \cos 2x}{2}$$

$$\cos^2 x = \frac{1 + \cos 2x}{2}$$