

Formulas de Derivadas

Reglas Generales de Derivación:

1. $\frac{d}{dx}(c) = 0$
2. $\frac{d}{dx}(cx) = c$
3. $\frac{d}{dx}(cx^n) = ncx^{n-1}$
4. $\frac{d}{dx}(u \pm v \pm w \pm \dots) = \frac{d}{dx}(u) \pm \frac{d}{dx}(v) \pm \frac{d}{dx}(w) \pm \dots$
5. $\frac{d}{dx}(cu) = c \frac{d}{dx}(u)$
6. $\frac{d}{dx}(uv) = u \frac{d}{dx}(v) + v \frac{d}{dx}(u)$
7. $\frac{d}{dx}\left(\frac{u}{v}\right) = \frac{v \frac{d}{dx}(u) - u \frac{d}{dx}(v)}{v^2}$
8. $\frac{d}{dx}(u^n) = nu^{n-1} \frac{d}{dx}(u)$
9. $\frac{d}{dx}(y) = \frac{d(y)}{du} \frac{d(u)}{dx}$ Regla de la cadena

Derivadas de Funciones Trigonometricas y Trigonometricas Inversas

10. $\frac{d}{dx} \text{sen}(u) = \cos(u) \frac{d}{dx}(u)$
11. $\frac{d}{dx} \cos(u) = -\text{sen}(u) \frac{d}{dx}(u)$
12. $\frac{d}{dx} \tan(u) = \sec^2(u) \frac{d}{dx}(u)$
13. $\frac{d}{dx} \cot(u) = -\text{csc}^2(u) \frac{d}{dx}(u)$
14. $\frac{d}{dx} \sec(u) = \sec(u) \tan(u) \frac{d}{dx}(u)$
15. $\frac{d}{dx} \text{csc}(u) = -\text{csc}(u) \cot(u) \frac{d}{dx}(u)$
16. $\frac{d}{dx} \arcsen(u) = \frac{1}{\sqrt{1-u^2}} \frac{d}{dx}(u)$
17. $\frac{d}{dx} \arccos(u) = \frac{-1}{\sqrt{1-u^2}} \frac{d}{dx}(u)$
18. $\frac{d}{dx} \arctan(u) = \frac{1}{1+u^2} \frac{d}{dx}(u)$

19. $\frac{d}{dx} \text{arc cot}(u) = \frac{-1}{1+u^2} \frac{d}{dx}(u)$
20. $\frac{d}{dx} \text{arc sec}(u) = \frac{1}{u\sqrt{u^2-1}} \frac{d}{dx}(u)$
21. $\frac{d}{dx} \text{arc csc}(u) = \frac{-1}{u\sqrt{u^2-1}} \frac{d}{dx}(u)$

Derivadas de las funciones exponenciales

22. $\frac{d}{dx} \log_a u = \frac{\log_a e}{u} \frac{d}{dx}(u)$
23. $\frac{d}{dx} \ln(u) = \frac{1}{u} \frac{d}{dx}(u)$
24. $\frac{d}{dx} a^u = a^u \ln(a) \frac{d}{dx}(u)$
25. $\frac{d}{dx} e^u = e^u \frac{d}{dx}(u)$
26. $\frac{d}{dx} u^v = vu^{v-1} \frac{d}{dx}(u) + u^v \ln(u) \frac{d}{dx}(v)$

Propiedades de los Logaritmos

$$\text{Log}AB = \text{Log}A + \text{Log}B$$

$$\text{Log} \frac{A}{B} = \text{Log}A - \text{Log}B$$

$$\text{Log}A^B = B \text{Log}A$$

Identidades Trigonometricas

$$\text{sen}(x) = \frac{1}{\text{csc}(x)} \quad \text{sen}^2(x) + \cos^2(x) = 1$$

$$\cos(x) = \frac{1}{\sec(x)} \quad \tan^2(x) + 1 = \text{csc}^2(x)$$

$$\cot^2(x) + 1 = \sec^2(x)$$

$$\tan(x) = \frac{\text{sen}(x)}{\cos(x)} \quad \text{sen}(2A) = 2\text{sen}(A) \cos(A)$$

$$\cot(x) = \frac{\cos(x)}{\text{sen}(x)} \quad \cos(2A) = \cos^2 A - \text{sen}^2 A$$

$$\text{sen}(A \pm B) = \text{sen}(A) \cos(B) \pm \text{sen}(B) \cos(A)$$

$$\cos(A \pm B) = \cos(A) \cos(B) \mp \text{sen}(B) \text{sen}(A)$$

$$\tan(A \pm B) = \frac{\tan(A) \pm \tan(B)}{1 \mp \tan(A) \tan(B)}$$