



Regles Generals de Derivació

1. $\frac{d}{dx}(c) = 0$
2. $\frac{d}{dx}(cx) = c$
3. $\frac{d}{dx}(x^n) = nx^{n-1}$
4. $\frac{d}{dx}(f \pm g) = \frac{df}{dx} \pm \frac{dg}{dx}$
5. $\frac{d}{dx}(cf) = c \frac{df}{dx}$
6. $\frac{d}{dx}(fg) = \frac{df}{dx}g + f \frac{dg}{dx}$
7. $\frac{d}{dx}\left(\frac{f}{g}\right) = \frac{\left(\frac{df}{dx}\right)g - f\left(\frac{dg}{dx}\right)}{g^2}$
8. $\frac{df}{dx} = \frac{df}{du} \frac{du}{dx}$ (Regla de la cadena)
9. $\frac{du}{dx} = \frac{1}{\frac{dx}{du}}$
10. $\frac{df}{dx} = \frac{df/du}{dx/du}$

Derivades de les funcions trigonomètriques

1. $\frac{d}{dx} \sin x = \cos x$
2. $\frac{d}{dx} \cos x = -\sin x$
3. $\frac{d}{dx} \tan x = \frac{1}{\cos^2 x} = 1 + \tan^2 x$
4. $\frac{d}{dx} \arcsin x = \frac{1}{\sqrt{1-x^2}}$



$$5. \frac{d}{dx} \arccos x = -\frac{1}{\sqrt{1-x^2}}$$

$$6. \frac{d}{dx} \arctan x = \frac{1}{1+x^2}$$

Derivades de les funcions exponencials i logarítmiques

$$1. \frac{d}{dx} \log_a x = \frac{\log_a e}{x}$$

$$2. \frac{d}{dx} \ln x = \frac{1}{x}$$

$$3. \frac{d}{dx} a^x = a^x \ln a$$

$$4. \frac{d}{dx} e^x = e^x$$

$$5. \frac{d}{dx} u^v = vu^{v-1} \frac{du}{dx} + u^v \ln u \frac{dv}{dx}$$