

2.2 Differentiation Rules!

*1) Constant: $\frac{d}{dx} [c] = 0$

*2) Power: $\frac{d}{dx} [x^n] = n \cdot x^{n-1}$

*3) Constant Multiple: $\frac{d}{dx} [c \cdot f(x)] = c \cdot f'(x)$

*4) Sum/Dif: $\frac{d}{dx} [f(x) \pm g(x)] = f'(x) \pm g'(x)$

5) Trig:

* $\frac{d}{dx} \sin x = \cos x$ * $\frac{d}{dx} \cos x = -\sin x$

$\frac{d}{dx} \csc x = -\csc x \cot x$

$\frac{d}{dx} \sec x = \sec x \tan x$

$\frac{d}{dx} \tan x = \sec^2 x = (\sec x)^2$

$\frac{d}{dx} \cot x = -\csc^2 x$

