Math 1496 - Calculus 1

Standard Derivatives

$$\frac{d}{dx}\, c = 0 \qquad \frac{d}{dx}\, x^n = nx^{n-1} \qquad \frac{d}{dx}\, e^x = e^x$$

$$\frac{d}{dx}\, \sin x = \cos x \qquad \frac{d}{dx}\, \cos x = -\sin x \qquad \frac{d}{dx}\, \tan x = \sec^2 x$$

$$\frac{d}{dx}\, \sec x = \sec x \tan x \qquad \frac{d}{dx}\, \csc x = -\csc x \cot x \qquad \frac{d}{dx}\, \cot x = -\csc^2 x$$

Rules

1. Sum $(f+g)' = f' + g'$

2. Difference $(f-g)' = f' - g'$

3. Constant Multiple $(cf)' = c\,f'$

4. Product $(fg)' = f'g + fg'$

5. Quotient $(\frac{f}{g})' = \frac{f'g - fg'}{g^2}$

6. Chain $\frac{dy}{dx} = \frac{dy}{du} \cdot \frac{du}{dx}$