Limit Definition of the Derivative:	Alternate Form:

Notations:

What the derivative tells us at $x = a$.

Differentiability vs Continuity

Power Rule $\frac{d}{dx}[ax^n]$	Product Rule $\frac{d}{dx}[f(x)g(x)]$	Quotient Rule $\frac{d}{dx}\left[\frac{f(x)}{g(x)}\right]$
$\frac{d}{dx}[\sin x]$	$\frac{d}{dx}[\cos x]$	$\frac{d}{dx}[\ln x]$
$\frac{d}{dx}[e^x]$	$\frac{d}{dx}\left[\frac{1}{x}\right]$	$\frac{d}{dx}[\sqrt{x}]$