Rules of Differentiation (Derivatives)

ALGEBRAIC RULES

Constant Rule $y = c \rightarrow y' =$ _____

Power Rule $y = x^n \rightarrow y' =$ _____

Product Rule $y = f(x) * g(x) \rightarrow y' =$ _____

Quotient Rule $y = \frac{f(x)}{g(x)} \rightarrow y' =$ _____

Chain Rule $y = f(g(x)) \rightarrow y' =$ _____

Exponential $y = a^x \rightarrow y' =$ _____ $y = a^{f(x)} \rightarrow y' =$ _____

$y = e^x \rightarrow y' =$ _____ $y = e^{f(x)} \rightarrow y' =$ _____

Logarithms $y = \log_a(x) \rightarrow y' =$ _____ $y = \log_a f(x) \rightarrow y' =$ _____

$y = \ln(x) \rightarrow y' =$ _____ $y = \ln f(x) \rightarrow y' =$ _____

TRIGONOMETRIC RULES

$y = \sin x \rightarrow y' =$ _____

$y = \cos x \rightarrow y' =$ _____

$y = \tan x \rightarrow y' =$ _____

$y = \csc x \rightarrow y' =$ _____

$y = \sec x \rightarrow y' =$ _____

$y = \cot x \rightarrow y' =$ _____

Inverse Trig Functions (Most Notable!)

$y = \sin^{-1} x \rightarrow y' =$ _____

$y = \sin^{-1}(f(x)) \rightarrow y' =$ _____

$y = \tan^{-1} x \rightarrow y' =$ _____

$y = \tan^{-1}(f(x)) \rightarrow y' =$ _____