

## The Rules

$y = \sin(\chi)$	$y' = \cos(\chi)$	$y = \tan(\chi)$
$y' = \cos(\chi)$	$y' = -\sin(\chi)$	$y' = \sec^2(\chi)$
$y = \sec(\chi)$	$y = \csc(\chi)$	$y = \cot(\chi)$
$y' = \sec(\chi) \tan(\chi)$	$y' = -\csc(\chi) \cot(\chi)$	$y' = -\csc^2(\chi)$

$$y = \sin(f(X)) \rightarrow y' = \cos(f(X)) x f'(X)$$

$$y = \cos(f(X)) \rightarrow y' = -\sin(f(X)) x f'(X)$$

$$y = \tan(f(X)) \rightarrow y' = \sec^2(f(X)) x f'(X)$$

$$y = \sec(f(X)) \rightarrow y' = \sec(f(X)) \tan(f(X)) x f'(X)$$

$$y = \csc(f(X)) \rightarrow y' = -\csc(f(X)) \cot(f(X)) x f'(X)$$

$$y = \cot(f(X)) \rightarrow y' = -\csc^2(f(X)) x f'(X)$$

$$y = \sin^n(X) \rightarrow y' = n \sin^{n-1}(X) x \cos(X)$$

$$y = \cos^n(X) \rightarrow y' = n \cos^{n-1}(X) x - \sin(X)$$

$$y = \tan^n(X) \rightarrow y' = n \tan^{n-1}(X) x \sec^2(X)$$

$$y = \sec^n(X) \rightarrow y' = n \sec^{n-1}(X) x \sec(X) \tan(X)$$

$$y = \csc^n(X) \rightarrow y' = n \csc^{n-1}(X) x - \csc(X) \cot(X)$$

$$y = \cot^n(X) \rightarrow y' = n \cot^{n-1}(X) x - \csc^2(X)$$

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