

Horizontal tangent line	Words that indicate derivative/differentiation	$\frac{d}{dx}[\cos x]$
Definition of the derivative	$\frac{d}{dx}[\tan x]$	Equation of tangent line at $x = a$
Situations in which limits fail to exist	Horizontal asymptote	Words that indicate second derivative
$\frac{d}{dx}[\sec x]$	Definition of continuity at $x = a$	$\frac{d}{dx}[\sin x]$
$\frac{d}{dx}[\cot x]$	$\frac{d}{dx}[\csc x]$	Vertical asymptote at $x = a$

$-\sin x$	Slope equation of tangent line; rate; velocity; increasing/ decreasing	Where $f'(x) = 0$
$y - f(a) = f'(a)(x - a)$	$\sec^2 x$	$f'(x) = \lim_{h \rightarrow 0} \frac{f(x+h) - f(x)}{h}$
Concavity; Point of inflection; Acceleration	$y = \lim_{x \rightarrow \pm\infty} f(x)$	<b>a) unbounded behavior (vertical asymptote)</b>  <b>b) behavior that differs from left and right (gap)</b>  <b>c) oscillation</b>
$\cos x$	$\lim_{x \rightarrow a} f(x)$ exists  $f(a)$ exists  $\lim_{x \rightarrow a} f(x) = f(a)$	$\sec x \tan x$
$\lim_{x \rightarrow a} f(x) = \pm\infty$	$-\csc x \cot x$	$-\csc^2 x$