

SHEET # 0277:

KEY

PHYSICS - VOCAB. & SYMBOLS OF DIFFERENTIAL CALCULUS

HORIZONTAL AXIS	VERTICAL AXIS	SECANT	TANGENT	CONCAVITY
INDEPENDENT VARIABLE	DEPENDENT VARIABLE	SLOPE OF LINE	SLOPE OF CURVE	CURVATURE
X	y	$\frac{\Delta y}{\Delta x}$	$\frac{dy}{dx}$	$\frac{d^2y}{dx^2}$
t	f(x)	m	f'(x)	f''(x)
INPUT	OUTPUT		DERIVATIVE	S''(t)
Δt	S(t)	$\frac{\Delta s}{\Delta t}$	$\lim_{\Delta x \rightarrow 0} \frac{\Delta y}{\Delta x}$	V'(t)
TIME INTERVAL	POSITION	AVERAGE VELOCITY	RATE OF CHANGE	RATE OF CHANGE OF A RATE OF CHANGE
Δx	DISPLACEMENT	AVERAGE RATE OF CHANGE	RATE OF CHANGE	
INTERVAL	VALUE OF FUNCTION	$\frac{f(b) - f(a)}{b - a}$	$\lim_{\Delta x \rightarrow 0} \frac{f(x + \Delta x) - f(x)}{\Delta x}$	$\frac{dv}{dt}$
	HEIGHT OF FUNCTION	AVERAGE SPEED	$\lim_{x \rightarrow a} \frac{f(x) - f(a)}{x - a}$	ACCELERATION
	CHANGE IN y		$\lim_{H \rightarrow 0} \frac{f(a+H) - f(a)}{H}$	$\lim_{\Delta t \rightarrow 0} \frac{\Delta v}{\Delta t}$
	Δy		INSTANTANEOUS RATE OF CHANGE	$\frac{d}{dx} \left(\frac{dv}{dx} \right)$
	$\Delta f(x)$		INSTANTANEOUS VELOCITY	$\frac{d}{dx} f'(x)$
			VELOCITY	SECOND DERIVATIVE
				$\frac{d^2s}{dt^2}$