

TABLE OF DERIVATIVES

$$u = u(x) \quad , \quad u' = \frac{du}{dx} \quad , \quad v = v(x) \quad , \quad v' = \frac{dv}{dx} \quad , \quad c = \text{constant}$$

a is any positive arbitrary constant: $a \neq 1, a > 0$

$$e \approx 2.7183$$

n is any real number

	Y	Y'
1.	$c \cdot x^n$	$n \cdot c \cdot x^{n-1}$
2.	$c \cdot u^n$	$n \cdot c \cdot u^{n-1} \cdot u'$
3.	$u+v$	$u' + v'$
4.	$u \cdot v$	$u' \cdot v + v' \cdot u$
	$\frac{u}{v}$	$\frac{u' \cdot v - v' \cdot u}{v^2}$
6.	$c \cdot e^x$	$c \cdot e^x$
7.	$c \cdot e^u$	$c \cdot e^u \cdot u'$
8.	$c \cdot a^x$	$c \cdot a^x \cdot \ln a$
	$c \cdot a^u$	$c \cdot a^u \cdot \ln a \cdot u'$
10.	$c \cdot \ln x$	$\frac{c}{x}$
	$c \cdot \ln u$	$\frac{c}{u} \cdot u'$
12.	$c \cdot \log_a x$	$\frac{c}{\ln a} \cdot \frac{1}{x}$
13.*	$c \cdot \log_a u$	$\frac{c}{\ln a} \cdot \frac{1}{u} \cdot u'$