

Formulas for Business calculus

	Function	Derivative
1	x^n	nx^{n-1}
2	x	1
3	k	0
4	$f(x).g(x)$	$f'(x).g(x) + f(x).g'(x)$
5	$\frac{f(x)}{g(x)}$	$\frac{f'(x).g(x) - f(x)g'(x)}{(g(x))^2}$
6	$[h(x)]^n$	$n[h(x)]^{n-1} h'(x)$
7	$\ln[f(x)]$	$\frac{f'(x)}{f(x)}$
8	$\log_b[f(x)]$	$\frac{1}{\ln b} \frac{f'(x)}{f(x)}$
9	$e^{f(x)}$	$f'(x)e^{f(x)}$
10	$a^{f(x)}$	$\ln a f'(x) a^{f(x)}$
	Function	Integral
1	x^n	$\frac{1}{n+1} x^{n+1} + c$ for $n \neq -1$
2	$\frac{1}{x} = x^{-1}$	$\ln x + c$
3	e^{ax+b}	$\frac{1}{a} e^{ax+b} + c$
4	$\frac{f'(x)}{f(x)}$	$\ln f(x) + c$
5	k	$Kx + c$
6	x	$\frac{1}{2} x^2 + c$
	Compound interest formula $A = P(1 + \frac{r}{n})^{nt}$	
	Continuous compounding $A = Pe^{rt}$	