Fórmulas o Reglas de Derivación

En las fórmulas siguientes *u, v* y *w* son funciones derivables de *x*.

1. $\frac{d}{dx}(c) = 0\ siendo\ c\ constante$
2. $\frac{d}{dx}(x) = 1$
3. $\frac{d}{dx}(u + v + \cdots) = \frac{d}{dx}(u) + \frac{d}{dx}(v) + \cdots$
4. $\frac{d}{dx}(cu) = c\frac{d}{dx}(u)$
5. $\frac{d}{dx}(uv) = u\frac{d}{dx}(v) + v\frac{d}{dx}(u)$
6. $\frac{d}{dx}(uvw) = uv\frac{d}{dx}(w) + uw\frac{d}{dx}(v) + vw\frac{d}{dx}(u)$
7. $\frac{d}{dx}\left(\frac{u}{c}\right) = \frac{1}{c}\frac{d}{dx}(u), c \neq 0$
8. $\frac{d}{dx}\left(\frac{c}{u}\right) = c\frac{d}{dx}\left(\frac{1}{u}\right) = -\frac{c}{u^2} * \frac{d}{dx}(u), u \neq 0$
9. $\frac{d}{dx}\left(\frac{u}{v}\right) = \frac{v*\frac{d}{dx}(u) - u*\frac{d}{dx}(v)}{v^2}, v \neq 0$
10. $\frac{d}{dx}(x^m) = mx^{m-1}$
11. $\frac{d}{dx}(u^m) = mu^{m-1}\frac{d}{dx}(u)$
12. $\frac{dy}{dx} = \frac{1}{\frac{dx}{dy}}$
13. $\frac{dy}{dx} = \frac{dy}{du} * \frac{du}{dx}$
14. $\frac{d}{dx}(log_a u) = \frac{1}{u} * log_a e\frac{du}{dx}, (a > 0, a \neq 1)$
15. $\frac{d}{dx}(ln\, u) = \frac{1}{u}\frac{du}{dx}$
16. $\frac{d}{dx}(a^u) = a^u ln\, a\frac{du}{dx}, (a > 0)$
17. $\frac{d}{dx}(e^u) = e^u\frac{du}{dx}$