Derivadas

Seja u = u(x):

1) $u = C, \qquad u' = 0$;

2) $u = x, \qquad u' = 1$;

3) $u = cx, \qquad u' = c$;

4) $u = u(x), \qquad u' = u'$;

5) $(u+v)' = u' + v'$;

6) $(u.v)' = u'v + uv'$;

7) $\left(\frac{u}{v}\right)' = \frac{u'v - uv'}{v^2}$;

8) $(\sqrt{u})' = \frac{u'}{2\sqrt{u}}$;

9) $(e^u)' = u'e^u$;

10) $(a^u)' = u'a^u \ln(a)$;

11) $(u^v)' = v'u^v \ln(u) + u'vu^{v-1}$;

12) $(\ln(u))' = \frac{u'}{u}$;

13) $(\log_a(u))' = \frac{u'}{a \cdot \ln(a)}$;

14) $(\sin(u))' = u' \cdot \cos(u)$;

15) $(\cos(u))' = -u' \cdot \sin(u)$;

16) $(tg(u))' = u' \cdot \sec^2(u)$;

17) $(\cot g(u))' = -u' \cdot \cos ec^2(u)$;

18) $(\sec(u))' = u' \cdot \sec(u) \cdot tg(u)$;

19) $(\cos ec(u))' = -u' \cdot \cos ec(u) \cdot \cot g(u)$;

20) $(sh(u))' = u' \cdot ch(u)$;

21) $(ch(u))' = u' \cdot sh(u)$;

22) $(\arcsin(u))' = \frac{u'}{\sqrt{1-u^2}}$;

23) $(\arccos(u))' = \frac{-u'}{\sqrt{1-u^2}}$;

24) $(arctg(u))' = \frac{u'}{1+u^2}$;

25) $(arc\cot g(u))' = \frac{-u'}{1+u^2}$;

26) $(arc\sec(u))' = \frac{u'}{|u|\sqrt{u^2-1}}$.