Таблица производных основных элементарных функций

1) $(x^n)' = n \cdot x^{n-1}$;

2) $(\sqrt{x})' = \dfrac{1}{2\sqrt{x}}$;

3) $\left(\dfrac{1}{x}\right)' = -\dfrac{1}{x^2}$;

4) $(e^x)' = e^x$;

5) $(a^x)' = a^x \ln a$;

6) $(\ln x)' = \dfrac{1}{x}$;

7) $(\log_a x)' = \dfrac{1}{x \ln a}$;

8) $(\sin x)' = \cos x$;

9) $(\cos x)' = -\sin x$;

10) $(\mathrm{tg}\, x)' = \dfrac{1}{\cos^2 x}$;

11) $(\mathrm{ctg}\, x)' = -\dfrac{1}{\sin^2 x}$;

12) $(\arcsin x)' = \dfrac{1}{\sqrt{1-x^2}}$;

13) $(\arccos x)' = -\dfrac{1}{\sqrt{1-x^2}}$;

14) $(\mathrm{arctg}\, x) = \dfrac{1}{1+x^2}$;

15) $(\mathrm{arcctg}\, x) = -\dfrac{1}{1+x^2}$;

16) $(\mathrm{sh}\, x)' = \mathrm{ch}\, x$;

17) $(\mathrm{ch}\, x) = \mathrm{sh}\, x$;

18) $(\mathrm{th}\, x)' = \dfrac{1}{\mathrm{ch}^2 x}$;

19) $(\mathrm{cth}\, x)' = -\dfrac{1}{\mathrm{sh}^2 x}$.