

Limity určované přímo z grafů:

1.  $\lim_{x \rightarrow \infty} \operatorname{arccotg} \frac{1}{x} = \frac{\pi}{2}$
2.  $\lim_{x \rightarrow 0^+} \operatorname{arccotg} \frac{1}{x} = 0$
3.  $\lim_{x \rightarrow 0^+} \operatorname{arctg} \ln x = -\frac{\pi}{2}$
4.  $\lim_{x \rightarrow \infty} e^{-\sqrt{x}} = 0$
5.  $\lim_{x \rightarrow -\infty} \left(\frac{1}{2}\right)^{x^2} = 0$
6.  $\lim_{x \rightarrow \frac{\pi}{2}^+} \operatorname{tg} x \cdot \operatorname{cotg} \left(x - \frac{\pi}{2}\right) = -\infty$
7.  $\lim_{x \rightarrow 0} \frac{\operatorname{arccotg} x}{\arccos x} = 1$
8.  $\lim_{x \rightarrow \infty} \frac{\ln x}{\operatorname{arctg} x} = \infty$
9.  $\lim_{x \rightarrow \infty} \sqrt{x^2 + 1} = \infty$
10.  $\lim_{x \rightarrow 0^+} \left(\log_{\frac{1}{2}} x\right) (\log_2 x) = -\infty$

Limity typu  $\left\| \frac{k}{0} \right\|$ :

1.  $\lim_{x \rightarrow 3} \frac{2x - 1}{9 - x^2} = \text{neex.}$
2.  $\lim_{x \rightarrow 2} \frac{x + 1}{\ln(x - 1)} = \text{neex.}$
3.  $\lim_{x \rightarrow 1} \frac{3}{(x - 1)^2} = \infty$
4.  $\lim_{x \rightarrow 1} \frac{x}{1 - x} = \text{neex.}$
5.  $\lim_{x \rightarrow 1} \frac{3x - 1}{\sin(x - 1)} = \text{neex.}$
6.  $\lim_{x \rightarrow -2} \frac{1 + 2x}{\left(\frac{x}{2} + 1\right)^2} = -\infty$
7.  $\lim_{x \rightarrow -1} \frac{1 - x^3}{1 + x^3} = \text{neex.}$
8.  $\lim_{x \rightarrow 1} \frac{2 - 3x}{\ln x} = \text{neex.}$
9.  $\lim_{x \rightarrow 0} \frac{x - 1}{\sin^2 x} = -\infty$
10.  $\lim_{x \rightarrow 0} \frac{2^{-x}}{\operatorname{arctg}^4 x} = \infty$