



Vypočítejte limity:

1.  $\lim_{x \rightarrow -1} \left( \frac{x^2 - 2x - 3}{x^3 + x^2 - 2x - 2} \right) =$  [4]
2.  $\lim_{x \rightarrow -1} \left( \frac{x + 1}{\sqrt{10 + x} - 3} \right) =$  [6]
3.  $\lim_{x \rightarrow 0} \left( \frac{\sin 5x}{4x} + \frac{\sin 2x}{3x} \right) =$  [23/12]
4.  $\lim_{x \rightarrow 0} \left( \frac{1 - \cos^4 x}{x^2} \right) =$  [2]
5.  $\lim_{x \rightarrow 1} \left( \frac{1}{x^2 - 1} - \frac{2}{x^4 - 1} \right) =$  [1/2]
6.  $\lim_{x \rightarrow 2} \left( \frac{x^4 - 16}{x^2 + 7x - 18} \right) =$  [32/11]
7.  $\lim_{x \rightarrow +\infty} (x^3 - 5x + 7) =$  [ $+\infty$ ]
8.  $\lim_{x \rightarrow +\infty} \left( \frac{2x^2 - 5x + 1}{-3x + 2} \right) =$  [ $-\infty$ ]
9.  $\lim_{x \rightarrow +\infty} (\sqrt{x - 4} - \sqrt{x}) =$  [0]
10.  $\lim_{x \rightarrow 0} \left( \frac{\sin 4x}{\sqrt{x + 1} - 1} \right) =$  [8]
11.  $\lim_{x \rightarrow \frac{\pi}{4}} \left( \frac{\sin x - \cos x}{1 - \operatorname{tg} x} \right) =$  [ $-\sqrt{2}/2$ ]



12.  $\lim_{x \rightarrow 0} \left( \frac{1 - \cos 2x + \operatorname{tg}^2 x}{\sin^2 x} \right) =$  [3]

13.  $\lim_{x \rightarrow \sqrt{3}} \left( \frac{x^4 + x^2 - 12}{x^4 - 2x^2 - 3} \right) =$  [7/4]

14.  $\lim_{x \rightarrow +\infty} \left( \frac{x+2}{x} \right)^x =$  [e<sup>2</sup>]