

Домашнее задание по теме: «Вычисление пределов»

1) $\lim_{x \rightarrow 4} (x^4 - 2x + 5);$

2) $\lim_{x \rightarrow -1} \frac{x^3 + x^2 - 11}{8x^2 + 5};$

3) $\lim_{x \rightarrow -2} \frac{x^3 + 8}{x + 2};$

4) $\lim_{x \rightarrow 2} \frac{x^2 - 4}{x - 2};$

5) $\lim_{x \rightarrow 1} \frac{x^2 + x - 2}{x - 1};$

6) $\lim_{x \rightarrow 0} \frac{x^2 - \sqrt{x}}{\sqrt{x} - 1};$

7) $\lim_{x \rightarrow 7} \frac{x^2 - 4x - 21}{x - 7};$

8) $\lim_{x \rightarrow -2} \frac{x^2 - 6x - 16}{x^2 + x - 2};$

9) $\lim_{x \rightarrow 1} \frac{\sqrt{5-x} - 2}{\sqrt{2-x} - 1};$

10) $\lim_{x \rightarrow 0} \frac{\sqrt[3]{1+x} - 1}{x}.$

1) $\lim_{x \rightarrow \pm\infty} \frac{1 - 3x}{2x + 3};$

2) $\lim_{x \rightarrow \pm\infty} \frac{3x^2 - 5x - 6}{7x^2 - 8x - 9};$

3) $\lim_{x \rightarrow \pm\infty} \frac{(x-1)^3}{x^3 - 2x^2 - 3x};$

4) $\lim_{x \rightarrow \pm\infty} (\sqrt{x^2 + 1} - \sqrt{x^2 - 1});$

5) $\lim_{x \rightarrow +\infty} (\sqrt{x^2 + x - 1} - \sqrt{x^2 - x + 1});$

6) $\lim_{x \rightarrow -\infty} \frac{12x^2 + 5}{4x^2 + 9}.$

1) $\lim_{x \rightarrow +\infty} \frac{5x^2 + 2x + 7}{x^2 - 3x - 5};$ 2) $\lim_{x \rightarrow +\infty} \frac{x - 8}{3 - x + 10x^2};$ 3) $\lim_{x \rightarrow +\infty} \frac{\sqrt{9x^2 + 2} - x}{4x + 11}.$

$$1) \lim_{x \rightarrow -1} (4x - x^3);$$

$$2) \lim_{x \rightarrow 2} (x^2 + 3x - 5);$$

$$3) \lim_{x \rightarrow 2} \frac{3x - 8}{4x + 2};$$

$$4) \lim_{x \rightarrow 0} \frac{3x + x^2}{2x^2 + x + 1};$$

$$5) \lim_{x \rightarrow 3} \frac{x^2 - 2x - 3}{x^2 - 5x + 6};$$

$$6) \lim_{x \rightarrow 1} \frac{x^2 - 3x + 2}{x^2 - 4x + 3};$$

$$7) \lim_{x \rightarrow -1} \frac{x^2 - 1}{5x^2 + 4x - 1};$$

$$8) \lim_{x \rightarrow 1} \frac{x^6 - 1}{x^3 - 1};$$

$$9) \lim_{x \rightarrow 2} \frac{x^3 - 3x - 2}{x^3 - 8};$$

$$10) \lim_{x \rightarrow 5} \frac{\sqrt{x-1} - 2}{x-5};$$

$$11) \lim_{x \rightarrow 8} \frac{\sqrt[3]{x} - 2}{x - 8};$$

$$12) \lim_{x \rightarrow 1} \frac{x - 1}{\sqrt[3]{x} - 1};$$

$$13) \lim_{x \rightarrow 0} \frac{x - 1}{\sqrt{x+3} - 2};$$

$$14) \lim_{x \rightarrow 0} \frac{x^2}{\sqrt{x^2 + 4} - 2};$$

$$15) \lim_{x \rightarrow 0} \frac{x}{\sqrt{5-x} - \sqrt{5+x}};$$

$$16) \lim_{x \rightarrow 3} \frac{\sqrt{2x+10} - 4}{x-3};$$