



A. Να υπολογίσετε τα όρια:

1. $\lim_{x \rightarrow 2} (x^2 + 5x + 6)$

2. $\lim_{x \rightarrow 3} \frac{x+5}{x+3}$

3. $\lim_{x \rightarrow 3} \frac{x^2 - 4x + 3}{x^2 - 3x}$

4. $\lim_{x \rightarrow -3} \frac{1}{x+3}$

5. $\lim_{x \rightarrow 2^+} \frac{|x^2 - 3x + 2|}{x - 2}$

6. $\lim_{x \rightarrow 2^-} \frac{|x^2 - 3x + 2|}{x - 2}$

7. $\lim_{x \rightarrow 1^+} \frac{|x-1|}{x-1} =$

8. $\lim_{x \rightarrow 1^-} \frac{|x-1|}{x-1} =$

9. $\lim_{x \rightarrow 0} \frac{3x-1}{x}$

10. $\lim_{x \rightarrow 0} \frac{x^2 - 3}{|x|}$

B.

1. $\lim_{x \rightarrow 0^+} \frac{1}{5 - \left(\frac{1}{3}\right)^{\frac{1}{x}}} =$

2. $\lim_{x \rightarrow 3} \frac{9 - x^2}{4 - \sqrt{x^2 + 7}} =$

3. $\lim_{x \rightarrow 2} \frac{\sqrt{x^2 - 4} + \sqrt{x - 2}}{\sqrt{x - 2}} =$

4. $\lim_{x \rightarrow 0^+} \frac{6 + \left(\frac{1}{5}\right)^{\frac{1}{x}}}{3 - \left(\frac{50}{51}\right)^{\frac{1}{x}}} =$

5. $\lim_{x \rightarrow 1} \frac{\sqrt{x-1}}{x-1}$

6. $\lim_{x \rightarrow 1} \frac{\sqrt[3]{x-1}}{x-1}$

7. $\lim_{x \rightarrow 1} \frac{\sqrt[3]{x} + \sqrt{x} - 2}{x - 1}$



A. Να υπολογίσετε τα όρια:

1. $\lim_{x \rightarrow -\infty} (3x^4 + 5x^2 - 4x)$

2. $\lim_{x \rightarrow +\infty} \left(3 + \frac{1}{x} - \frac{2}{x^2} \right) =$

3. $\lim_{x \rightarrow -\infty} \left(2 - \frac{1}{x} \right)^3 =$

5. $\lim_{x \rightarrow +\infty} \frac{2x-1}{4x+7} =$

7. $\lim_{x \rightarrow +\infty} \sqrt[3]{8 + \frac{4}{x}} =$

6. $\lim_{x \rightarrow +\infty} \frac{x^2 + 2x + 1}{x + 5}$

7. $\lim_{x \rightarrow -\infty} \frac{x^2 + 3}{x + 4} =$

8. $\lim_{x \rightarrow +\infty} \frac{\sqrt{25x^2 + 9}}{x}$

9. $\lim_{x \rightarrow -\infty} \frac{\sqrt{9x^4 + 3}}{x^2} =$

10. $\lim_{x \rightarrow -\infty} \frac{\sqrt{25x^2 + 9}}{x}$

B. Να υπολογίσετε τα όρια:

1. $\lim_{x \rightarrow +\infty} \frac{\sigma \nu \nu x}{x+1} =$

3. $\lim_{x \rightarrow +\infty} \frac{\eta \mu x}{x+1} =$

5. $\lim_{x \rightarrow +\infty} \frac{x \eta \mu^2 x}{x^2 + 3} =$

7. $\lim_{x \rightarrow +\infty} \sqrt{9x^2 + 2x + 3} - 3x$

2. $\lim_{x \rightarrow +\infty} \sqrt{x+5} + \sqrt{x+1} =$

4. $\lim_{x \rightarrow +\infty} \sqrt{x+5} - \sqrt{x+1} =$

6. $\lim_{x \rightarrow +\infty} \frac{\sqrt{x+5} + \sqrt{x+3}}{\sqrt{x+4}} =$



Γ.

1. $\lim_{x \rightarrow \pi} \frac{\eta\mu x}{\pi - x}$

2. $\lim_{x \rightarrow \pi} \frac{4\sigma\nu\left(x - \frac{\pi}{2}\right)}{x - \pi} =$

3. $\lim_{x \rightarrow \frac{\pi}{4}^+} \frac{1}{\sigma\nu 2x}$

4. $\lim_{x \rightarrow +\infty} x\eta\mu \frac{1}{x} =$

5. $\lim_{x \rightarrow +\infty} x \varepsilon\varphi \frac{5}{x} =$

6. $\lim_{x \rightarrow 0} \frac{\sqrt{x+9}-3}{\eta\mu 2x} =$

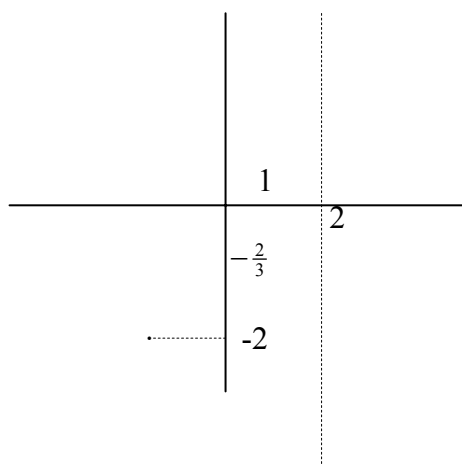
Δ.

1. $\lim_{x \rightarrow +\infty} \frac{2^x + 3^x}{4^x + 5^x} =$

2. $\lim_{x \rightarrow +\infty} \frac{7^{2x} + 1}{7^x + 2} =$

3. $\lim_{x \rightarrow +\infty} \frac{-3^x + 1}{3^x + 1} =$

4. $\lim_{x \rightarrow +\infty} \left(\frac{2}{3}\right)^x =$

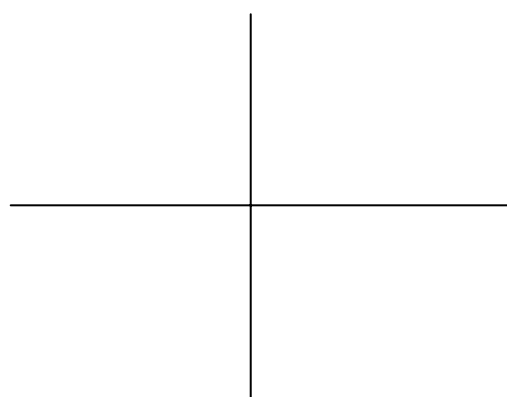


1. $\lim_{x \rightarrow +\infty} f(x) =$

3. $\lim_{x \rightarrow 2^+} f(x) =$

2. $\lim_{x \rightarrow -\infty} f(x) =$

4. $\lim_{x \rightarrow 2^-} f(x) =$



1. $\lim_{x \rightarrow -1^+} f(x) =$

3. $\lim_{x \rightarrow -1^-} f(x) =$

4. $\lim_{x \rightarrow 1^+} f(x) =$

5. $\lim_{x \rightarrow 1^-} f(x) =$



A. Να υπολογίσετε τα όρια:

$$1. \lim_{x \rightarrow 0} \frac{\eta\mu x}{x}$$

$$2. \lim_{x \rightarrow 0} \frac{\eta\mu 2x}{\eta\mu 5x}$$

$$3. \lim_{x \rightarrow 0} \frac{\varepsilon\phi 8x}{x}$$

$$4. \lim_{x \rightarrow 0} \frac{\varepsilon\phi 4x}{\eta\mu 3x}$$

$$5. \lim_{x \rightarrow 0} \frac{\sigma\tau\epsilon\mu 3x}{\sigma\phi 4x}$$

$$6. \lim_{x \rightarrow 0} \frac{\eta\mu 6x - \eta\mu x}{x}$$

$$7. \lim_{x \rightarrow 0} \frac{1 - \sigma\upsilon\nu x}{x^2}$$

$$8. \lim_{x \rightarrow 0} \frac{1 - \sigma\upsilon\nu x}{x}$$

$$9. \lim_{x \rightarrow 0} \frac{2\varepsilon\phi x - x}{x - 2\eta\mu x}$$

$$10. \lim_{x \rightarrow 0} \frac{6x + \eta\mu 2x}{2x + 3\eta\mu 4x}$$

B.

$$1. \lim_{x \rightarrow 0^-} \frac{\eta\mu 5x}{\sqrt{1 - \sigma\upsilon\nu 2x}}$$

$$2. \lim_{x \rightarrow 0^+} \frac{\eta\mu 5x}{\sqrt{1 - \sigma\upsilon\nu 2x}}$$

$$3. \lim_{x \rightarrow \frac{\pi}{6}^-} \frac{\sqrt{\sigma\upsilon\nu 6x + 1}}{\frac{\pi}{6} - x}$$

$$4. \lim_{x \rightarrow +\infty} \frac{x - \eta\mu x}{x^2 - 1}$$

$$5. \lim_{x \rightarrow \frac{\pi}{4}} \frac{\eta\mu x - \sigma\upsilon\nu x}{\sigma\upsilon\nu 2x}$$

$$6. \lim_{x \rightarrow \frac{\pi}{2}} \left[\left(\frac{\pi}{2} - x \right) \varepsilon\phi x \right]$$

$$7. \lim_{x \rightarrow 0} \frac{1 - 2\sigma\upsilon\nu x + \sigma\upsilon\nu 2x}{x^2}$$

$$8. \lim_{x \rightarrow 0} \frac{1 - \eta\mu x - \sigma\upsilon\nu x}{1 + \eta\mu x - \sigma\upsilon\nu x}$$