Matematik analiz fanidan test savollari

$N=\{1,2,3,...\}$ va $M=\{1,\frac{1}{2},\frac{1}{3},...\}$ to‘plamlar berilgan. N ni M ga o‘zaro bir qiymatli akslantiruvchi akslantirishni ko‘rsating. **Javob: n→$\frac{1}{3n}$**
$f(x)=x^2+6x+10$ funksiya berilgan bo’lsa, $f(-2)$ ni toping. **Javob:2**
$\lim\limits_{n\to\infty}\dfrac{2n^2-n+1}{3-5n-n^2}$ limitni hisoblang: **Javob: -2**
$f(x)=x^2+x$ funksiya berilgan bo’lsa, $f(x+1)$ ni toping **Javob: x^2+3x+2**
$\lim\limits_{n\to\infty}\dfrac{n^2-2n-3}{3-n}$ limitni hisoblang: Javob: ∞
$s(t)=t^2-6t+8$ bo’lsa, $s(0)$ ni hisoblang. **Javob: 8**
$\lim\limits_{n\to\infty}\dfrac{n^3-100n^2+1}{100n^3+n-100}$ ni hisoblang. **Javob: 0,01**
$f(x)=\cos x$ funksiya berilgan bo’lsa, $f(\frac{\pi}{4})=?$ Javob:$\frac{\sqrt{2}}{2}$
$\lim\limits_{n\to\infty}\dfrac{1+\frac{1}{2}+\frac{1}{4}+...+\frac{1}{2^n}}{1+\frac{1}{3}+\frac{1}{9}+...+\frac{1}{3^n}}$ ni hisoblang Javob: $\frac{4}{3}$
Ushbu $n\in N$, $\{x_n\}=\{n\}=\{1,2,...,n,...\}$ qanday ketma-ketlik? Javob: O’suvchi, quyidan chegaralangan
$\lim\limits_{x\to5}\dfrac{\sqrt{6-x}-1}{3-\sqrt{4+x}}$ ni hisoblang **Javob:3**
Ushbu $n\in N$, $\{x_n\}=\left\{\frac{1}{n}\right\}=\left\{1,\frac{1}{2},\frac{1}{3},...\right\}$ qanday ketma-ketlik? **Javob: Chegaralangan**
$\lim\limits_{x\to0}\dfrac{shx}{x}$ ni hisoblang **Javob: 1**
$E=\{x_n\}=\left\{\frac{n}{n+1}\right\}=\left\{\frac{1}{2},\frac{2}{3},\frac{3}{4},...\right\}$ ketma-ketlik berilgan bo’lsa, $\inf E=?$, $\sup E=?$ **Javob: int E ½ sub E 1**

Quyidagi limitni toping. $\lim\limits_{n\to\infty}\left(\frac{1}{3}+\frac{1}{15}+\ldots+\frac{1}{4n^2-1}\right)$ Javob: ½
$N=\{1,2,\ldots,n,\ldots\}$ natural sonlar ketma-ketligi berilgan bo'lsa, $\inf E=?,\ \sup E=?$ **javob: int E=1 sub E=+∞**
$f(x+1)=x^2-3x+2$ funksiya berilgan $f(x)$ ni toping. **Javob:-1**
$\lim\limits_{n\to\infty}\frac{4n^2-1}{3-2n^2}$ limitni xisoblang: **Javob: -2**
$\lim\limits_{n\to\infty}\frac{7n^2-3n}{1-7n}$ limitni xisoblang: **Javob: ∞**
$\lim\limits_{n\to\infty}\frac{2n^2+5n}{1-2n}$ limitni xisoblang: **Javob: ∞**
$\lim\limits_{n\to\infty}\frac{(-1)^{n+1}}{7n+5}$ limitni xisoblang: javob: 0
$\lim\limits_{x\to3}(x^3+x-5)$ limitni hisoblang. **Javob: 25**
$\lim\limits_{n\to\infty}\sqrt[n]{20}$ ni hisoblang **Javob:1**
$\lim\limits_{n\to\infty}\sqrt[n]{49}$ ni hisoblang **Javob:1**
$\lim\limits_{n\to\infty}\frac{4n^2-3}{7-2n^2}$ limitni xisoblang: **Javob: -2**
$\lim\limits_{n\to\infty}\frac{7n^2-4n}{2-7n}$ limitni xisoblang: **Javob: ∞**
$\lim\limits_{n\to\infty}\frac{2n^2+5n}{1-2n}$ limitni xisoblang: **Javob: ∞**
$\lim\limits_{x\to4}\frac{\sqrt{x}+1}{\sqrt{x}-1}$ limitni hisoblang. **Javob: 3**
$\lim\limits_{x\to a}\frac{\cos x-\cos a}{x-a}$ quyidagi limitni hisoblang. **Javob: -sin a**
Quyidagi funksiyalardan qaysi biri $(-\infty;0)$ oraliqda o'suvchi? **Javob:y=2x+7**

Quyidagi funksiyalardan qaysi biri $(0;+\infty)$ oraliqda kamayuvchi? **Javob: y=3-2x**
$f(x)=\frac{3x-5}{x^2-1}$ funksiya aniqlanish sohasini toping. **Javob: $(-\infty;-1)$ v (-1;1) v(1; ∞)**
$f(x)=\frac{x+2}{x^2-4}$ funksiya aniqlanish sohasini toping. **Javob: $(-\infty;-2)$ v (-2;2) v(2; ∞)**
$\lim\limits_{n\to\infty}\left(1+\frac{1}{n}\right)^n$ limitni hisoblang: **javob: e**
Juft funksiya uchun quyidagilardan qaysi biri o‘rinli ? **javob: funksiya grafigi ordinatalar o’qiga nisbatan simmetrik**
Toq funksiyalarga nisbatan quyidagilardan qaysi biri o‘rinli? **javob: funksiya grafigi kordinatalar boshiga nisbatan simmetrik**
$\lim\limits_{x\to+\infty}\frac{x^2-4}{5x^2+3x+7}$ limitni hisoblang: **Javob: 1/5**
$\lim\limits_{x\to+\infty}\frac{x^2-6x}{3x^2+7x+1}$ limitni hisoblang: **Javob:1/3**
$\lim\limits_{x\to+\infty}\frac{\sqrt{4x^2+1}}{5x-1}$ limitni hisoblang: **Javob: 2/5**
$\lim\limits_{x\to+\infty}\frac{\sqrt{4x^2+9}}{3x+1}$ limitni hisoblang: **Javob: 2/3**
$\lim\limits_{x\to\frac{1}{2}}\frac{8x^3-1}{4x^2-1}$ limitni hisoblang: **Javob: 3/2**
$\lim\limits_{x\to\frac{1}{2}}\frac{8x^3-1}{3x^2+5x+11}$ limitni hisoblang: **Javob: 0**
$\lim\limits_{x\to-2}\frac{x^2-4}{x^2+3x+2}$ limitni hisoblang: **javob: 4**
$\lim\limits_{x\to+\infty}(\sqrt{x+a}-\sqrt{x})$ limitni hisoblang: **Javob:0**
$\lim\limits_{x\to+\infty}(\sqrt{3x-7a}-\sqrt{3x})$ limitni hisoblang: **javob:0**
$\lim\limits_{x\to0}\frac{tg\,2x}{x^3+x}$ limitni hisoblang: **Javob: 2**

$\lim\limits_{x\to 0}\dfrac{\sin 3x}{x}$ limitni hisoblang: **Javob: 3**
$\lim\limits_{x\to 0}\dfrac{\sin\frac{3x}{2}}{3x}$ limitni hisoblang: **Javob: 1/2**
$\lim\limits_{x\to 0}\dfrac{3^x-1}{x}$ limitni hisoblang: **javob: ln 3**
$\lim\limits_{x\to 0}\dfrac{2^x-1}{2x}$ limitni hisoblang: **Javob: 1/2 ln 2**
$\lim\limits_{x\to\infty}2x\left(e^{\frac{1}{x}}-1\right)$ limitni hisoblang: **javob: 0**
$\lim\limits_{x\to -1}\dfrac{3x^2+3x}{x^3+1}$ limitni hisoblang: **Javob: -1**
$lim\limits_{x\to 0}\dfrac{7x}{\sin 7x}$ limitni hisoblang: **Javob: 1**
$\lim\limits_{n\to\infty}\dfrac{2n^2-1}{3-n^2}$ limitni hisoblang: **javob: -2**
$f(x)$ funksiya $x=x_0$ nuqtada uzluksiz deyiladi, agarda ... **Javob: $\lim\limits_{x\to 0}$ f(x) = f(x_0)**
$\lim\limits_{x\to 0}\dfrac{\arcsin 2x}{5x}$ limitni hisoblang: **Javob: 2/5**
$f(x)$ funksiya $x=x_0$ nuqtada uzluksiz deyiladi, agarda ... **Javob: $\lim\limits_{x\to 0}$ f(x) = f(x_0)**
$x=x_0$ nuqta $f(x)$ funksiya uchun bartaraf qilish mumkin bo‘lgan nuqta agarda ... **Javob: $\lim\limits_{x\to 0}$ f(x) mavjud $\lim\limits_{x\to 0}$ f(x) ≠ f(x_0)**
$\lim\limits_{x\to 0}\dfrac{\sin 10x}{x}$ limitni hisoblang. Javob:10
f(x)=5x-5 f(0)=? **Javob:-5**
Ushbu $y=\dfrac{3}{x+3}$ funksiyaning aniqlanish sohasini toping. **Javob: x+3≠0 yoki x≠-3**
f(x)= $6x^2$+5x-2 f(1)=? **Javob: 9**

$\lim\limits_{x\to\infty}\left(1+\frac{1}{4x}\right)^{x}$ limitni hisoblang **Javob: e 1/4**
$\lim\limits_{x\to-1}\frac{3x^2+3x}{x^3+1}$ limitni hisoblang: **Javob: -1**
$f(x)=x^3-2x^2+x-1$ funksiya berilgan bo'lsa, $f(1)$ ni toping. **Javob: -1**
$y=x^2-2x+1$ funksiyaning aniqlanish sohasini toping. **Javob: $(-\infty;+\infty)$**
$a\le x\le b$ tengsizlikni qanoatlantiradigan barcha haqiqiy sonlar to'plami…… deyiladi. **Javob: kesma**
Hosila ta'rifi-? **Javob: Funksiya ortirmasi Δy ning argument ortirmasi Δx ga nisbatining Δx ning 0 ga intilgandagi limitiga aytiladi**
$y=x^2-2x+1$ funksiyaning aniqlanish sohasini toping. **Javob: $(-\infty;+\infty)$**
$y=\ln x-x^2$ y(e)=? **Javob: $1-y^2$**
$\lim\limits_{x\to2}(x^2-2x+1)$ limitni hisoblang. **Javob: 1**
$f(x)=x^3-3x^2$ funksiya uchun f(1)- qiymatini toping. **Javob: -2**
$\lim\limits_{x\to0}\frac{x^2-1}{x^2+1}$ limitni hisoblang. **Javob: -1**
$f(x)=x^3-3x^2+1$ funksiya uchun f(0) - qiymatini toping. **Javob: 1**
Funksiya ta'rifi qaysi javobda to'g'ri ko'rsatilgan?
f(x)=3x+8 f(1)=? **Javob:11**
$\lim\limits_{x\to0}\frac{\sin\frac{x}{3}}{x}$ limitni hisoblang. **Javob: 1/3**
$f(x)=3x^2-4x-4$ f(0)=? **Javob: -4**
$\lim\limits_{x\to3}\frac{x^3-27}{x-3}$ limitni hisoblang. **Javob: 27**
$x^{(n)}=\left(\frac{2-3n^2}{1+2n^2},\frac{2n-1}{2+3n}\right)$ ketma-ketlik limitini toping. **Javob:-3/2-2/3**

$\lim\limits_{x\to 4}\dfrac{x^3-64}{x-4}$ limitni hisoblang. **Javob:48**
$\lim\limits_{x\to 2}(x^2-2x+1)$ limitni hisoblang. **Javob:1**
$\lim\limits_{x\to 8}\dfrac{x^2-64}{x-8}$ limitni hisoblang. **Javob:16**
$\lim\limits_{x\to\infty}\left(1+\dfrac{2x}{3}\right)^x$ limitni hisoblang. **Javob: ∞**
$\lim\limits_{x\to 0}(x^2-3x+9)$ limitni hisoblang. **Javob:9**
$\lim\limits_{x\to 0}(1+4x)^{\frac{3}{4x}}$ limitni hisoblang. **Javob: e^3**
$\lim\limits_{x\to 5}\dfrac{x^2-25}{x+5}$ limitni hisoblang. **Javob: 0**
$\lim\limits_{x\to\infty}\left(1+\dfrac{1}{x}\right)^x$ limitni hisoblang. **Javob: e**
$\lim\limits_{x\to 0}(1+x)^{\frac{1}{x}}$ limitni hisoblang. **Javob: e**
$\lim\limits_{x\to 0}\dfrac{\sqrt{1+x}-1}{x}$ limit qiymatini toping: . **Javob: 1/2**
$\lim\limits_{x\to 0}(1-3x)^{\frac{1}{3x}}$ limitni hisoblang. **Javob: 1/e**
$\lim\limits_{x\to\infty}\left(\dfrac{x+1}{x-1}\right)^x$ limit qiymatini toping: . **javob: ∞**
Ushbu $n\in N$, $\{x_n\}=\{n\}=\left\{1,\dfrac{1}{2},\ldots,\dfrac{1}{n},\ldots\right\}$ qanday ketma-ketlik? **Javob:kamayuvchi** chegaralangan
$\lim\limits_{x\to 3}\dfrac{x^2-6x+9}{x^2-9}$ limitni hisoblang. **Javob: 0**
$f(x)=\dfrac{x^2-5x+9}{7x}$ funksiyaning aniqlanish sohasini toping. **Javob: $(-\infty;0)\,(0;\infty)$**

$\lim\limits_{n\to\infty}\left(1+2+3+\ldots+n\right)\frac{1}{n}$ limitni hisoblang. **Javob: ∞**
$\lim\limits_{x\to5}(x^2+x-5)$ limitni hisoblang. **Javob: 25**
$\lim\limits_{x\to\frac{\pi}{2}}\frac{\cos x}{\pi-2x}$ limitning qiymatini toping . **Javob: 1/2**
$\lim\limits_{x\to-1}(x^3+x-5)$ limitni hisoblang. **Javob: -7**
$\lim\limits_{x\to2}\frac{x^2+6x+8}{x^2+x-2}$ limitning qiymatini toping . **Javob: 6**
y= -3x+8 y(0)=? **Javob:8**
$\lim\limits_{x\to2}\frac{4x^2-5x+2}{2x^2+x-6}$ ni toping. **Javob: 2**
$\lim\limits_{a\to0}(1+a)^{\frac{1}{a}}$ limitni hisoblang. **Javob: e**
$\lim\limits_{x\to2}\frac{1-\sqrt{3-x}}{\sqrt{7+x}-3}$ ni toping. **Javob:3**
$f(x)=3x^2-2x+2$ funksiya berilgan bo'lsa, $f(-1)$ ni toping. **Javob: 7**
$\lim\limits_{x\to0}\frac{2x}{1-\sqrt{2x+1}}$ ni toping. **Javob:-2**
$f(x)=x^3-2x^2+x-1$ funksiya berilgan bo'lsa, $f(1)$ ni toping. **Javob:-10**
$y=\frac{1}{x^3-x}$ funksiyaning aniqlanish sohasini toping. **Javob: $(-\infty;-1)$ (-1;0)(0;1)(1; ∞)**
$f(x)=\cos x$ funksiya berilgan bo'lsa, $f(\frac{\pi}{4})=?$ Javob:$\frac{\sqrt{2}}{2}$
$y=1+\lg(x+2)$funksiyaga teskari funksiyani toping. **Javob: y= -2+10^{x-1}**
$f(x)=x^2-x+1$ funksiya berilgan bo'lsa, $f(-2)$ ni toping. **Javob: 7**
Agar $f(x-1)=2x^2-3x+1$bo'lsa, $f(x+1)$ ni toping. **Javob: 2x^2 +5x+3**

$f(x)=\dfrac{x^2-3x+4}{x}$ funksiyaning aniqlanish sohasini toping. **Javob: $(-\infty;0)$ $(0;+\infty)$**
$f(x)=\dfrac{x^2-3x+4}{x+1}$ funksiyaning aniqlanish sohasini toping. **Javob: $(-\infty;-1)$ $(-1;+\infty)$**
$\lim\limits_{n\to\infty}\dfrac{(-1)^n n}{6n^3-3}$ limitni xisoblang: **javob: 0**
$\lim\limits_{z\to\infty}\left(1+\dfrac{1}{z}\right)^{-z}$ limitni hisoblang. **Javob: 1/e**
$\lim\limits_{x\to\infty}\left(\dfrac{x}{1+x}\right)^{x}$ limitni hisoblang. **Javob:1/e**
$\lim\limits_{n\to\infty}\dfrac{4n^2-3}{7-2n^2}$ limitni xisoblang: **javob: -2**
$\lim\limits_{n\to\infty}\dfrac{7n^2-4n}{2-7n}$ limitni xisoblang: **javob: ∞**
$\lim\limits_{n\to\infty}\dfrac{2n^2+5n}{1-2n}$ limitni xisoblang: **javob: ∞**
$f(z)=z^2+3z-8$ funksiya berilgan bo'lsa, $f(-1)=?$ **Javob: -10**
$\lim\limits_{n\to\infty}\dfrac{(-1)^n n}{6n^3-3}$ limitni xisoblang: **javob: 0**
$\lim\limits_{x\to 0}(1+2x)^{\frac{5}{x}}$ limitni hisoblang. **Javob: e^{10}**
$\lim\limits_{x\to 0}(1+6x)^{\frac{5}{6x}}$ limitni hisoblang. **Javob: e^5**
Quyidagi funksiyalardan qaysi biri $(-\infty;0)$ oraliqda o'suvchi? **Javob: y=2x+7**
Quyidagi funksiyalardan qaysi biri $(0;+\infty)$ oraliqda kamayuvchi? **Javob: y=3-2x**
$f(x)=\dfrac{3x-5}{x^2-1}$ funksiya aniqlanish sohasini toping. **Javob: $(-\infty;-1)$ (-1;1)(1; ∞)**

$f(x)=\frac{x+2}{x^2-4}$ funksiya aniqlanish sohasini toping. **Javob: (-∞;−2) (-2;2)(2; ∞)**
$y=\sqrt{\frac{2x-1}{1-2x}}$ funksiyaning aniqlanish sohasini toping. **Javob:X E ∅**
$\lim\limits_{x\to\infty}\frac{3x^2-4x-2}{4x^2+3x+5}$ limitni hisoblang: **Javob: 3/4**
$\lim\limits_{x\to+\infty}\frac{x^2-5x}{5x^2+9x+7}$ limitni hisoblang: **Javob: 1/5**
$\lim\limits_{x\to+\infty}\frac{x^2-6x}{3x^2+7x+1}$ limitni hisoblang: **Javob: 1/3**
$\lim\limits_{x\to+\infty}\frac{\sqrt{4x^2+1}}{5x-1}$ limitni hisoblang: **Javob: 2/5**
$\lim\limits_{x\to+\infty}\frac{\sqrt{4x^2+7}}{3x+13}$ limitni hisoblang: **Javob: 2/3**
$\lim\limits_{x\to\frac{1}{2}}\frac{8x^3-1}{4x^2+1}$ limitni hisoblang: **Javob: 3/2**
$\lim\limits_{x\to\frac{1}{2}}\frac{8x^3+12}{4x^2+4x+11}$ limitni hisoblang: **Javob: 13/14**
$\lim\limits_{x\to-2}\frac{x^2-4}{x^2+3x+2}$ limitni hisoblang: **javob: 4**
f(x)=9x+5 funksiya berilgan bo'lsa, $f(-1)=?$ **Javob: -4**
$\lim\limits_{n\to\infty}\sqrt[n]{n}=?$ Hisoblang **javob: 1**
$\lim\limits_{x\to0}\frac{tg\,2x}{x}$ limitni hisoblang: **Javob:2**
$\lim\limits_{x\to0}\frac{tg\,3x}{x}$ limitni hisoblang: **Javob: 3**

$\lim\limits_{x\to 0} \dfrac{tg\,\frac{3x}{2}}{3x}$ limitni hisoblang: **javob: 1/2**
$\lim\limits_{x\to 0} \dfrac{3^x-1}{x^2+x}$ limitni hisoblang: **javob: ln 3**
$\lim\limits_{x\to 0} \dfrac{2^x-1}{2x+2x^2}$ limitni hisoblang: **javob: ln 2**
$\lim\limits_{x\to\infty} 2x\left(e^{\frac{1}{x}}-1\right)$ limitni hisoblang: **javob: 0**
$\lim\limits_{x\to -1} \dfrac{3x^2+3x}{x^3+1}$ limitni hisoblang: **javob: -1**
$lim\limits_{x\to 0} \dfrac{7x}{\sin 7x}$ limitni hisoblang: **javob: 1**
$\lim\limits_{x\to 0} \dfrac{5\arcsin x}{4x}$ limitni hisoblang: **Javob: 5/4**