“Matematika” kafedrasi “Matematik analiz(Calculs)” fanida IV semestr uchun TEST SAVOLLARI majmui				
	A (to’gri)	B	C	D
$F(x)$ funksiya $f(x)$ funksiya uchun boshlang`ich funksiya deyiladi, agar:	$F'(x)=f(x)$	$F(x)=f'(x)$	$F'(x)=C$	$F'(x)=x$
$\left(\int f(x)dx\right)'=?$ integral xossasidan foydalanib toping.	$f(x)$	$f(x)dx$	dx	0
Integral jadvalidan foydalanib toping. $\int x^n dx=?$	$\frac{x^{n+1}}{n+1}+C$	$nx^{n+1}+C$	$x^{n-1}+C$	$\frac{x^{n-1}}{n-1}+C$
Integral jadvalidan foydalanib toping. $\int \frac{1}{\sqrt{x}}dx=?$	$2\sqrt{x}+C$	$\ln\sqrt{x}+C$	$\frac{2}{\sqrt{x}}+C$	$\frac{\sqrt{x}}{2}+C$
$f(x)=x^2$ funksiyaning $M(-1;3)$ nuqtadan o‘tuvchi boshlang‘ich funksiyasini toping.	$F(x)=x^3/3+10/3$	$F(x)=x^3+5/3$	$F(x)=x^3/3+3$	$F(x)=x^3/3$
$f(x)=\cos x+7$ funksiyaning boshlang’ich funksiyasini toping.	$F(x)=\sin x+7x+C$	$F(x)=-\sin x+7+C$	$F(x)=\cos x+7x+C$	$F(x)=-\sin x+7x+C$
$f(x)=e^x+5$ funksiyaning boshlang’ich funksiyasini toping.	$F(x)=e^x+5x+C$	$F(x)=-e^x+6x+C$	$F(x)=e^x+7x+C$	$F(x)=e^x-x+C$
$f(x)=\sin x-\frac{5}{x}-7$ funksiyaning boshlang’ich funksiyasini toping	$F(x)=-\cos x-5\ln x-7x+C$	$F(x)=\cos x+5\ln x+C$	$F(x)=-\cos x+6x+C$	$F(x)=e^x-x+C$

$f(x)=x-\frac{5}{x}+1$ funksiyaning boshlang'ich funksiyasini toping.	$F(x)=\frac{x^2}{2}-5\,ln\,x+x+C$	$F(x)=\frac{x^2}{2}+5\ln x+C$	$F(x)=\frac{x^2}{2}+6x+C$	$F(x)=\frac{x^2}{2}-x+C$
$f(x)=x^3-\frac{5}{x^2}+1$ funksiyaning boshlang'ich funksiyasini toping.	$F(x)=\frac{x^4}{4}+\frac{5}{x}+x+C$	$F(x)=\frac{x^2}{2}+5\ln x^2+C$	$F(x)=\frac{x^2}{2}+5\ln x^2+C$	$F(x)=\frac{x^2}{2}-x+C$
Integralni hisoblang: $\int\sqrt{x}dx=?$	$\frac{2}{3}\sqrt{x^3}+C$	$\frac{2}{3}\sqrt{x}+C$	$\frac{1}{2\sqrt{x}}+C$	$-\frac{2}{\sqrt{x}}+C$
Integralni hisoblang: $\int\frac{2}{x^2}dx=?$	$-\frac{2}{x}+C$	$-\frac{2}{3x^3}+C$	$-\frac{1}{2x}+C$	$\frac{2}{x}+C$
Integralni hisoblang: $\int\frac{1}{2x+3}dx=?$	$\frac{1}{2}\ln(2x+3)+C$	$2\ln(2x+3)+C$	$-\frac{1}{(2x+3)^2}+C$	$\frac{1}{2}(2x+3)+C$
Aniqmas integral jadvalidan $\int\frac{1}{\sqrt{x}}dx=$ ni aniqlang.	$2\sqrt{x}+C$	$\ln\sqrt{x}+C$	$\frac{2}{\sqrt{x}}+C$	$\frac{\sqrt{x}}{2}+C$
Aniqmas integral jadvalidan $\int\frac{1}{\sin^2 x}dx=$ ni aniqlang.	$-ctg\ x+C$	$\arcsin\ x+C$	$ctg\ x+C$	$tg\ x+C$
$f(x)=x-\frac{5}{x}$ funksiyaning boshlang'ich funksiyasini toping.	$\frac{x^2}{2}-5\ln x+C$	$\frac{x^2}{2}+10x+C$	$\frac{x^2}{2}+5\ln x+C$	$\frac{x^2}{2}-x+C$
Integralni hisoblang: $\int\frac{1}{\cos^2 3x}dx=?$	$\frac{1}{3}tg\,3x+C$	$\arcsin 3x+C$	$-\frac{1}{3}tg\,3x+C$	$\frac{1}{3}ctg\,3x+C$

$\int tg^2 x\,dx$ integralni hisoblang.	$tgx - x + C$	$ctgx + x + C$	$2tgx + C$	$ctgx + 1 + C$
Integralni hisoblang: $\int 2^{3x} dx = ?$	$\frac{2^{3x}}{3\ln 2} + C;$	$3 \cdot 2^{3x} \ln 2 + C;$	$2^{3x} \ln 2 + C;$	$\frac{2^{3x}}{\ln 3} + C;$
Integralni hisoblang: $\int e^{4x+1} dx = ?$	$\frac{1}{4} e^{4x+1} + C;$	$4e^{4x+1} + C;$	$\frac{e^{4x+2}}{4x+2} + C;$	$e^{4x+1} + C;$
Integralni hisoblang: $\int \frac{1}{\cos^2 3x} dx = ?$	$\frac{1}{3} tg\,3x + C;$	$\arcsin 3x + C;$	$\frac{1}{3} ctg\,3x + C;$	$-\frac{1}{3} tg\,3x + C;$
Integralni hisoblang: $\int (\sin x - 3\cos x) dx$	$-\cos x - 3\sin x + C$	$2tgx + C$	$\ln \sin x + \cos x + C$	$2\sin x - 2\cos x + c$
Integralni hisoblang: $\int (2\cos 2x - 7) dx$	$\sin 2x - 7x + C$	$2\cos 2x - x + C$	$tgx + C$	$ctgx + C$
Integralni hisoblang: $\int (\sin 2x - 3x) dx$	$-\frac{\cos 2x}{2} - \frac{3x^2}{2} + C$	$2\cos 2x + C$	$tgx + C$	$ctgx + C$
Integralni hisoblang: $\int 6\cos 2x dx$	$3\sin 2x + C$	$2\cos 2x + C$	$tgx + C$	$ctgx + C$

Integralni hisoblang: $\int 5a^x dx$	$\frac{5a^x}{\ln a}+C$	e^x+C	$\sin x+C$	$\ln x^a+C$
Integralni hisoblang: $\int 2^{x+1}dx$	$\frac{2^{x+1}}{\ln 2}+C$	e^x+C	2^x+C	$\ln x^a+C$
Integralni hisoblang: $\int (e^{ax}-2)dx$	$\frac{e^{ax}}{a}-2x+C$	$e^{ax}+x^2+C$	$\sin x+C$	$\ln x^a+C$
Integralni hisoblang: $\int\left(3x^2-2x\right)dx-?$	x^3-x^2+C	$x+C$	x^3+C	e^x+C
Integralni hisoblang: $\int\left(x^3+\frac{1}{1+x^2}\right)dx-?$	$\frac{x^4}{4}+arctgx+C$	$2x+5+C$	$\cos x+51x+C$	$9x^2+C$
Integralni hisoblang: $\int\frac{1}{5x+7}dx=?$	$\frac{1}{5}\ln\left(5x+7\right)+C$	$5\ln\left(5x+7\right)+C$	$-\frac{1}{\left(5x+7\right)^2}+C$	$\frac{1}{5}\left(5x+7\right)+C$
$\int_1^3 (x+1)^2dx$ integralni hisoblang.	56/3	50/3	$\frac{1}{4}$	4
Integralni hisoblang: $\int 7^{9x}dx=?$	$\frac{7^{9x}}{9\ln 7}+C$;	$9\cdot 7^{9x}\ln 7+C$;	$7^{9x}\ln 7+C$;	$\frac{7^{9x}}{\ln 7}+C$;

Integralni hisoblang: $\int e^{7x+5}dx=?$	$\frac{1}{7}e^{7x+5}+C$;	$7e^{7x+5}+C$;	$\frac{e^{7x+9}}{7x+9}+C$;	$e^{7x+9}+C$;
Integralni hisoblang: $\int(-2\sin x+5\cos x)dx$	$2\cos x+5\sin x+C$	$2tgx+C$	$\ln\sin x+\cos x+C$	$2\sin x-2\cos x+c$
Integralni hisoblang: $\int(2\sin x-\cos x)dx$	$-2\cos x-\sin x+C$	$2tgx+C$	$\ln\sin x+\cos x+C$	$2\sin x-2\cos x+c$
Integralni hisoblang: $\int\left(2x-\frac{1}{\sin^2 x}\right)dx-?$	$x^2+ctgx+C$	$\sin x+C$	x^2+C	$\cos e^x+C$
Integralni hisoblang: $\int\left(4x^3+\frac{1}{1+x^2}\right)dx-?$	$x^4+arctgx+C$	$2x+5+C$	$\cos x+51x+C$	$9x^2+C$
Aniqmas integral jadvalidan $\int\frac{1}{\sqrt{x}}dx=$ ni aniqlang.	$2\sqrt{x}+C$	$\ln\sqrt{x}+C$	$\frac{2}{\sqrt{x}}+C$	$\frac{\sqrt{x}}{2}+C$
Aniqmas integral jadvalidan $\int a^x dx=$ ni aniqlang.	$\frac{a^x}{\ln a}+C$	$a^x\ln a+C$	$xa^{x-1}+C$	$\frac{a^x}{\ln x}+C$
Aniqmas integral jadvalidan $\int\frac{1}{\sin^2 x}dx=$ ni aniqlang.	$-ctg\ x+C$	$\arcsin\ x+C$	$ctg\ x+C$	$tg\ x+C$
$f(x)=\cos x+7$ funksiyaning boshlang'ich funksiyasini toping.	$\sin x+7x+C$	$\cos x+7x+C$	$-\sin x+7+C$	$-\sin x+7x+C$

$f(x)=x-\frac{5}{x}$ funksiyaning boshlang'ich funksiyasini toping.	$\frac{x^2}{2}-5\ln x+C$	$\frac{x^2}{2}+10x+C$	$\frac{x^2}{2}+5\ln x+C$	$\frac{x^2}{2}-x+C$
$f(x)=e^{-x-1}+\frac{1}{x^2}$ funksiyaning boshlang'ich funksiyasini toping.	$-e^{-x-1}-\frac{1}{x}+C$	$-e^{x+1}+x+C$	$e^{-x-1}+\frac{1}{x}+C$	$e^{-x-1}+\frac{1}{x^2}+C$
Integralni hisoblang: $\int\frac{1}{\sin^2 9x}dx=?$	$-\frac{1}{9}ctg\ 9x+C$	$-9ctg\ 9x+C$	$\arcsin 9x+C$	$\frac{1}{9}tg\ 9x+C$
Integralni hisoblang: $\int 2^{3x}dx=?$	$\frac{2^{3x}}{3\ln 2}+C$	$2^{3x}\ln 2+C$	$\frac{2^{3x}}{\ln 3}+C$	$3\cdot 2^{3x}\ln 2+C$
Integralni hisoblang: $\int e^{7x+1}dx=?$	$\frac{1}{7}e^{7x+1}+C$	$7e^{7x+1}+C$	$\frac{e^{7x+1}}{7x+1}+C$	$e^{7x+1}+C$
Integralni hisoblang: $\int\frac{1}{\cos^2 3x}dx=?$	$\frac{1}{3}tg\ 3x+C$	$\arcsin 3x+C$	$-\frac{1}{3}tg\ 3x+C$	$\frac{1}{3}ctg\ 3x+C$
$\int \ln x dx$ integralni hisoblang.	xlnx-x+C	xlnx+C	xlnx+x+C	$0{,}5\ln^2 x+C$
$\int xe^x dx$ integralni hisoblang.	$(x-1)e^x+C$	xe^x+C	$(x+1)e^x+C$	$0{,}5\ln^2 x+C$
$\int(x+7)\sin x dx$ integralni hisoblang.	$-(x+7)\cos x+\sin x+C$	$x\cos x+C$	$-(x+7)\sin x+\cos x+C$	$7\cos x+\sin x+C$
$\int x\sin 2x dx$ integralni hisoblang.	$\frac{\sin 2x}{4}-\frac{x\cos 2x}{2}+C$	$x\cos x+C$	$-\sin 2x+\cos x+C$	$\cos 2x+\sin x+C$

$\int tg^2 x\,dx$ integralni hisoblang.	$tgx - x + C$	$ctgx + x + C$	$2tgx + C$	$ctgx + 1 + C$
Aniqmas integrallarning qaysi biri noto'g'ri?	$\int \sin x dx = \cos x + C$	$\int e^x dx = e^x + C$	$\int \frac{dx}{x} = 1n\lvert x\rvert + C$	$\int a^x dx = \frac{a^x}{1na} + C$
Aniqmas integralni bo'laklab integrallash formulasi:	$\int udv = uv - \int vdu$	$\int f(x)dx = \int f(\varphi(x))\varphi'(x)dx$	хамма жавоб нотўғри	$\int f(x)dx = F(x)+C$
$\int_0^2 (x-1)^3 dx$ integralni hisoblang.	0	1	$\frac{1}{4}$	4
$\int_0^4 \frac{1}{2\sqrt{x}} dx$ integralni hisoblang.	2	4	1	0
$\int_1^e \frac{x-1}{x} dx$ integralni hisoblang.	e-2	0	$\frac{e^2}{2}$	1
$\int_0^{\pi} \cos^3 x\,dx$ integralni hisoblang.	0	-3	π	1
$\int_0^{\frac{\pi}{2}} \sin^2 x\,dx$ integralni hisoblang.	$\frac{\pi}{4}$	$\frac{1}{4}$	π	0
$\int_0^{\pi/2} \frac{2}{\cos^2 2x} dx$ integralni hisoblang.	0	π	$\frac{1}{2}$	$\frac{\pi}{4}$
$\int_1^2 \frac{1}{x^2 + x} dx$ integralni hisoblang.	$\ln\frac{4}{3}$	$\frac{3}{2}$	$\ln 4$	1

$\int_0^2 \frac{1}{x^2+4}dx$ integralni hisoblang.	$\frac{\pi}{8}$	$\frac{1}{2}$	$\frac{\pi}{2}$	$\frac{3}{2}$
Integralni hisoblang: $\int \frac{1}{\sin^2 7x}dx = ?$	$-\frac{1}{7}ctg\ 7x + C$	$-7ctg\ 7x + C$	$\arcsin 7x + C$	$\frac{1}{7}tg\ 7x + C$
Integralni hisoblang: $\int 7^{7x}dx = ?$	$\frac{7^{7x}}{7\ln 7} + C$	$7^{7x}\ln 7 + C$	$\frac{7^{7x}}{\ln 7} + C$	$7 \cdot 7^{7x}\ln 7 + C$
Integralni hisoblang: $\int e^{13x+17}dx = ?$	$\frac{1}{13}e^{13x+17} + C$	$17e^{13x+17} + C$	$\frac{e^{13x+17}}{13x+17} + C$	$e^{13x+17} + C$
$\sum_{n=1}^{\infty} a_n \ (a_n > 0)$ qator quyidagi shartlarning qaysi biri bajarilganda albatta yaqinlashuvchi bo'ladi?	$\lim_{n\to\infty}\frac{a_{n+1}}{a_n} < 1$ bo'lsa	$\frac{a_{n+1}}{a_n} > q > 1$ bo'lsa	$\lim_{n\to\infty}\sqrt[n]{a_n} > 1$ bo'lsa	$\lim_{n\to\infty}\frac{a_{n+1}}{a_n} = 1$ bo'lsa
$\sum_{n=1}^{\infty} a_n \ (a_n > 0)$ - qator quyidagi shartlarning qaysi biri bajarilganda albatta yaqinlashuvchi bo'ladi?	$\lim_{n\to\infty}\sqrt[n]{a_n} < 1$ bo'lsa	$\lim_{n\to\infty}\frac{a_{n+1}}{a_n} > 1$ bo'lsa	$\lim_{n\to\infty}\sqrt[n]{a_n} > 1$ bo'lsa	$\lim_{n\to\infty}\frac{a_{n+1}}{a_n} = 1$ bo'lsa
$\sum_{n=1}^{\infty}\frac{1}{n(n+1)}$ qator yig'indisini hisoblang.	1	$1\frac{1}{2}$	$\frac{1}{2}$	3
Quyidagi qatorlarning qaysi biri yaqinlashuvchi.	$\sum_{n=1}^{\infty}\frac{1}{n\sqrt{n+1}}$	$\sum_{n=1}^{\infty}(-1)^{n-1}$	$\sum_{n=1}^{\infty}\frac{1}{2n-1}$	$\sum_{n=1}^{\infty}\frac{1}{\sqrt{(2n-1)(2n+1)}}$

$\sum_{n=0}^{\infty} x^n$ funktsional qator quyidagi oraliqlarning qaysi birida tekis yaqinlashuvchi bo'ladi:	$[-q;q]$, $0<q<1$	$(-1,1]$	$[-1;1]$	$[0,1]$
$\sum_{n=0}^{\infty} \frac{x^n}{n!}$ darajali qatorning yaqinlashish radiusini toping.	∞	0	3	2
Qaysi funktsiyaning Makloren qatori $f(x)=\sum_{k=1}^{\infty} \frac{(-1)^k x^{2k-1}}{(2k-1)!}$ ko'rinishida bo'ladi?	$f(x)=\sin x$	$f(x)=\cos x$	$f(x)=tgx$	$f(x)=e^x$
$\sum_{n=1}^{\infty}(-1)^{n-1}c_n (c_n>0)$ qator yaqinlashuvchi bo'ladi, agar:	c_n - monoton kamayuvchi bo'lib, $\lim_{n\to\infty} c_n = 0$ bo'lsa	c_n - monoton kamayuvchi bo'lsa	$\frac{c_{n+1}}{c_n} \geq 1$ bo'lsa	$\lim_{n\to\infty} c_n = 0$ bo'lsa
Garmonik qatorni ko'rsating.	$\sum_{n=1}^{\infty} \frac{1}{n}$	$\sum_{n=1}^{\infty} a_n q^n$	$\sum_{n=1}^{\infty} \frac{(-1)^n}{n}$	$n=1$□∞□ -1□□n□□
$\sum_{n=1}^{\infty} x^n, \quad x\in(0,1)$ funktsional qatorning yig'indisini toping:	$f(x)=\frac{x}{1-x}$	$f(x)=0$	$f(x)=\frac{x}{x-1}$	$f(x)=\frac{1-x}{x}$
$\sum_{n=1}^{\infty} \frac{x^n}{n^2}$ funktsional qator quyidagi oraliqlarning qaysi birida tekis yaqinlashuvchi bo'ladi:	$[-1, 1]$	$(1, 2)$	$[1, 2]$	$[-2, -1]$

$\frac{1}{1\cdot 3}+\frac{1}{3\cdot 5}+\frac{1}{5\cdot 7}+\ldots$ qator yig'indisini hisoblang.	1/2	3/7	1/3	2/3
$\sum_{n=0}^{\infty}\frac{1}{2^n}$ qator yig'indisini hisoblang.	2	1	3	0
$\sum_{n=1}^{\infty}\frac{(x-1)^n}{2^n}$ darajali qatorning yaqinlashish sohasini toping.	-1<x<3	0<x<3	-2<x<2	$-\infty < x < \infty$
$\sum_{n=1}^{\infty}\frac{(-1)^n}{(n+5)!}$ va $\sum_{n=1}^{\infty}\frac{(-1)^n}{\sqrt[3]{n+1}}$ qatoqlarni absolyut yoki shartli yaqinlashuvchilikka tekshiring	1- absolyut yaqinla shuvchi, 2- shartli yaqinla shuvchi	1-absolyut yaqinla shuvchi, 2- uzoqla shuvchi	1- uzoqla shuvchi, 2- uzoqla shuvchi	1- shartli yaqinla shuvchi, 2- absolyut yaqinla shuvchi
Quyidagi qatorlardan qaysilari yaqinlashuvchi bo'ladi? 1) $\sum_{n=1}^{\infty}\left(\frac{4n}{n+3}\right)^n$; 2) $\sum_{n=1}^{\infty}\frac{2n^4}{(n+1)^4}$; 3) $\sum_{n=1}^{\infty}\frac{1}{(n+2)^7}$.	3	1	2	Hammasi yaqinlashuvchi
$\sum_{n=1}^{\infty}\frac{(x-2)^n}{5^n}$ darajali qatorning yaqinlashish sohasini toping.	-3<x<7	0<x<5	-5<x<5	$-\infty < x < \infty$
$\frac{1}{1\cdot 3}+\frac{1}{3\cdot 5}+\frac{1}{5\cdot 7}+\ldots$ qator yig'indisini hisoblang.	1/2	3/7	1/3	2/3
Darajali qatorni yaqinlashish radusini toping. $\sum_{n=1}^{\infty}\frac{x^n}{3n-2}$	1	∞	2	3

$\sum_{n=1}^{\infty}\frac{(x+2)^n}{n}$ darajali qatorning yaqinlashish sohasini toping.	$[-3;-1)$	$(-2;4)$	$[-3;3)$	$(-2;4)$
$\sum_{n=1}^{\infty}\frac{(x-1)^n}{5n+1}$ darajali qatorning yaqinlashish sohasini toping.	$[0;2)$	$(-1;1)$	$[1;3)$	$(-1;2)$
Darajali qatorni yaqinlashish radusini toping. $\sum_{n=1}^{\infty} n!\,x^n$	0	1	∞	1/2
$\sum_{n=1}^{\infty}\frac{(x-1)^n}{n^2}$ darajali qatorning yaqinlashish sohasini toping.	$[0;2]$	$[1;2)$	$\left(-\frac{1}{2};-1\right)$	$[-1;2)$
Quyidagi qatorlardan qaysilari yaqinlashuvchi bo'ladi? 1) $\sum_{n=1}^{\infty}\frac{1}{2^n}$, 2) $\sum_{n=1}^{\infty}\frac{3^n}{2^n}$, 3) $\sum_{n=1}^{\infty}7\left(\frac{4}{5}\right)^n$, 4) $\sum_{n=1}^{\infty}2^{n-1}$.	1;3	1;2	2;4	3;4
Quyidagi qatorlardan qaysilari yaqinlashuvchi bo'ladi? 1) $\sum_{n=1}^{\infty}\frac{1}{n}$, 2) $\sum_{n=1}^{\infty}\frac{1}{n^3}$, 3) $\sum_{n=1}^{\infty}\frac{1}{\sqrt[4]{n}}$	2	1	3	1;2

$\sum_{n=1}^{\infty}\frac{n}{1+n^2}$ va $\sum_{n=1}^{\infty}\frac{n+1}{5n+3}$ qatoqlarni yaqinlashishga tekshiring.	1- uzoqla shuvchi, 2- uzoqla shuvchi	1- yaqinla shuvchi, 2- uzoqlashuvchi	1- uzoqla shuvchi, 2- yaqinla shuvchi	1- yaqinla shuvchi, 2- yaqinla shuvchi
Quyidagi qatorlarning qaysi biri shartli yaqinlashuvchi:	$\sum_{n=1}^{\infty}\frac{(-1)^n}{n}$	$\sum_{n=1}^{\infty}\cos n$	$\sum_{n=1}^{\infty}\sin n$	$\sum_{n=1}^{\infty}\frac{(-1)^n}{n^2}$
$f(x)=e^x$ funktsiyaning Makloren qatoriga yoilmasini aniqlang.	$1+x+\frac{x^2}{2!}+\frac{x^3}{3!}+.....$	$1-x-\frac{x^2}{2!}-\frac{x^3}{3!}-.....$	$x-\frac{x^3}{3!}-\frac{x^5}{5!}+.....$	$x+\frac{x^3}{3!}+\frac{x^5}{5!}+.....$
$\frac{1}{5}+\frac{2}{11}+\frac{3}{29}+...+\frac{n}{3^n+2}+...$ Dalamber alomatidan foydalanib qator yaqinlashishi tekshirilsin.	Yaqinlashuvchi. $l=\frac{1}{3}$	Uzoqlashuvchi $l=1$	Yaqinlashuvchi. $l=\frac{1}{4}$	Uzoqlashuvchi $l=2$
Darajali qatorni yaqinlashish sohasi topilsin. $\sum_{n=1}^{\infty}\frac{(x-1)^n}{n\cdot 3^{n-1}}$	$[-2;4)$	$(-2;4)$	$[-3;3)$	$(-3;4)$
Darajali qatorni yaqinlashish sohasi topilsin. $\sum_{n=1}^{\infty}\frac{x^n}{n\cdot 3^{n-1}}$	$[-3;3)$	$(0;3)$	$(-3;0)$	$(-2;4)$
$f(x)=3\cos 5x$ funksiyaning boshlang`ichini toping.	$\frac{3}{5}\sin 5x+C$	$\sin x+C$	$\frac{3}{5}\sin 4x+C$	$\frac{3}{5}\sin 2x+C$
Berilgan qatorning umumiy hadini aniqlang. $\frac{2}{5}+\frac{4}{8}+\frac{6}{11}+\frac{8}{14}+\cdots$	$\frac{2n}{3n+2}$	$\frac{2n}{2n+1}$	$\frac{2n}{3n-1}$	$\frac{2^n}{3n+2}$

Integralni hisoblang: $\int \frac{3dx}{x^2}$	$-\frac{3}{x}+C$	$\frac{3}{x^4}+C$	$\frac{1}{x}+C$	$-\frac{1}{x^2}+C$
Integralni hisoblang $\int \frac{dx}{3x+4}$	$\frac{1}{3}\ln\lvert 3x+4\rvert+C$	$\frac{1}{(3x+2)^3}+C$	$\frac{1}{(x-4)^2}+C$	$\ln\lvert x+1\rvert+C$
Integralni hisoblang $\int(\cos 2x+1)\,dx$	$\frac{1}{2}\sin 2x+x+C$	$\frac{1}{2}\sin x+C$	$\frac{1}{3}\cos(3x-2)+C$	$\cos 2x+x+C$
Integralni hisoblang $\int(\sqrt{x}+\cos 3x)dx$	$\frac{2}{3}x^{\frac{3}{2}}+\frac{1}{3}\sin 3x+C$	$x^2+x^{\frac{3}{2}}+\cos 3x+C$	$x^{\frac{3}{2}}+\cos x+C$	$x^2+\frac{2}{3}x^{\frac{3}{2}}+C$
Integralni hisoblang: $\int_0^a (x^3-a^2x+1)\,dx$	$-\frac{1}{4}a^4+a$	a^3+a	a^4	$-\frac{1}{2}a^4$
Integralni hisoblang: $\int_0^5 e^{\frac{x}{5}}\,dx$	$5(e-1)$	$5e$	$e+1$	$3+e$
$f(x)=e^x+\cos x+3$ funksiyaning boshlang`ichini toping:	$F(x)=e^x+\sin x+3x+C$	$F(x)=\sin x+5x+C$	$F(x)=e^x+\sin 2x+C$	$F(x)=\sin 3x+C$
Integralni hisoblang: $\int_1^{\sqrt{3}} \frac{dx}{x^2+1}$	$\frac{\pi}{12}$	$\frac{\pi}{4}$	$\frac{\pi}{2}$	$\frac{\pi}{3}$
Sonli qatorning yig'ndisini toping: $\sum_{n=1}^{\infty}\frac{1}{2^n}$	1	0	3	-1

Sonli qatorning yig'ndisini toping: $\sum_{n=1}^{\infty}\frac{1}{n(n+1)}$	1	-1	0	-2
Agar sonli qator yaqinlashuvchi bo'lsa, uning umumiy hadi qaysi songa intilishi zarur?	0	3	-1	2
Integralni hisoblang: $\int_0^2 x^3 dx = ?$	4	1	2	0
Integralni hisoblang: $\int_0^4 \frac{1}{2\sqrt{x}} dx = ?$	2	1	0	4
Integralni hisoblang: $\int_1^e \frac{1}{x} dx = ?$	1	e	$\frac{e^2}{2}$	0
Integralni hisoblang: $\int_0^1 a^x dx = ?$	$\frac{a-1}{\ln a}$	$\frac{a}{\ln a}$	a-1	a
Integralni hisoblang: $\int_0^{\pi} \cos x\, dx = ?$	0	π	1	-1
Integralni hisoblang: $\int_0^{\pi} \sin x\, dx = ?$	2	π	1	-1

Integralni hisoblang: $\int_0^{\pi/2} \frac{1}{\cos^2 x} dx = ?$	∞	π	1	-1
Integralni hisoblang: $\int_1^2 \frac{1}{x^2} dx = ?$	$\frac{1}{2}$	$-\frac{1}{2}$	1	2
Integralni hisoblang: $\int \frac{1}{\sin^2 5x} dx = ?$	$-\frac{1}{5} ctg\, 5x + C$	$-5 ctg\, 5x + C$	$\arcsin 5x + C$	$\frac{1}{5} tg\, 5x + C$
Integralni hisoblang: $\int \frac{1}{\cos^2 3x} dx = ?$	$\frac{1}{3} tg\, 3x + C$	$\arcsin 3x + C;$	$\frac{1}{3} ctg\, 3x + C;$	$-\frac{1}{3} tg\, 3x + C;$
Integralni hisoblang: $\int e^{4x+1} dx = ?$	$\frac{1}{4} e^{4x+1} + C;$	$4e^{4x+1} + C;$	$\frac{e^{4x+2}}{4x+2} + C;$	$e^{4x+1} + C;$
Integralni hisoblang: $\int 2^{3x} dx = ?$	$\frac{2^{3x}}{3\ln 2} + C;$	$3 \cdot 2^{3x} \ln 2 + C;$	$2^{3x} \ln 2 + C;$	$\frac{2^{3x}}{\ln 3} + C;$
Integralni hisoblang: $\int \frac{1}{2x+3} dx = ?$	$\frac{1}{2} \ln(2x+3) + C;$	$2\ln(2x+3) + C;$	$-\frac{1}{(2x+3)^2} + C;$	$\frac{1}{2}(2x+3) + C;$
Integralni hisoblang: $\int \frac{2}{x^2} dx = ?$	$-\frac{2}{x} + C;$	$-\frac{2}{3x^3} + C;$	$-\frac{1}{2x} + C;$	$\frac{2}{x} + C;$

Integralni hisoblang: $\int \sqrt{x}dx = ?$	$\frac{2}{3}\sqrt{x^3}+C;$	$\frac{2}{3}\sqrt{x}+C;$	$\frac{1}{2\sqrt{x}}+C;$	$-\frac{2}{\sqrt{x}}+C;$
$f(x)=x^3-\frac{5}{x^2}+1$ funksiyaning boshlang'ich funksiyasini toping.	$F(x)=\frac{x^4}{4}+\frac{5}{x}+x+C$	$F(x)=\frac{x^2}{2}+5\ln x^2+C$	$F(x)=\frac{x^2}{2}+5\ln x^2+C$	$F(x)=\frac{x^2}{2}-x+C$
$f(x)=x-\frac{5}{x}+1$ funksiyaning boshlang'ich funksiyasini toping.	$F(x)=\frac{x^2}{2}-5\ln x+x+C$	$F(x)=\frac{x^2}{2}+5\ln x+C$	$F(x)=\frac{x^2}{2}+6x+C$	$F(x)=\frac{x^2}{2}-x+C$
$f(x)=\sin x-\frac{5}{x}-7$ funksiyaning boshlang'ich funksiyasini toping.	$F(x)=-\cos x-5\ln x-7x+C$	$F(x)=\cos x+5\ln x+C$	$F(x)=-\cos x+6x+C$	$F(x)=e^x-x+C$
$f(x)=e^x+5$ funksiyaning boshlang'ich funksiyasini toping.	$F(x)=e^x+5x+C$	$F(x)=-e^x+6x+C$	$F(x)=e^x+7x+C$	$F(x)=e^x-x+C$
$f(x)=\cos x+7$ funksiyaning boshlang'ich funksiyasini toping.	$F(x)=\sin x+7x+C$	$F(x)=\cos x+7x+C$	$F(x)=-\sin x+7+C$	$F(x)=-\sin x+7x+C$
Integralni hisoblang: $\int x^3e^{-x^2}dx-?$	$-\frac{x^2+1}{2}e^{-x^2}+c$	$-\frac{x^2+1}{2}e^{x}+c$	$\frac{x^3+1}{2}e^{-x^2}+c$	$\frac{x^2-1}{2}e^{x^2}+c$
Integralni hisoblang: $\int\frac{dx}{\left(x^2+1\right)}$	$arctgx+c$	$\arcsin x+c$	$\cos x+c$	$arcctgx+c$

$\int ctgx\,dx$ integralni hisoblang.	$\ln\lvert\sin x\rvert+C$	tgx	ctg^2x+C	$\ln\lvert x\rvert+C$
$\int_{-1}^{1}\frac{dx}{\sqrt{1-x^2}}$ integralni hisoblang.	π	3	0	$\pi/2$
Ushbu $\sum_{n=1}^{\infty}\frac{x^4}{n^2}$ qatorni yaqinlashish sohasini toping.	$\lvert x\rvert\le 1$	$\lvert x\rvert\ge 1$	$x=1$	$X=R$
$f(x)=x^4+\frac{7}{x^3}+\lg 8$ funksiyaning boshlang'ich funksiyasini toping.	$F(x)=\frac{x^5}{5}-\frac{7}{2x^2}+\lg 8x+C$	$F(x)=\frac{x^2}{2}+7\ln x^2+C$	$F(x)=\frac{x^3}{2}+7\ln x^2+C$	$F(x)=\frac{x^2}{2}-\lg 8x+C$
Integralni hisoblang: $\int 2\sqrt{x}dx=?$	$\frac{4}{3}\sqrt{x^3}+C$	$\frac{2}{3}\sqrt{x}+C$	$\frac{1}{2\sqrt{x}}+C$	$-\frac{2}{\sqrt{x}}+C$
Integralni hisoblang: $\int\frac{5}{x^2}dx=?$	$-\frac{5}{x}+C$	$-\frac{2}{3x^3}+C$	$-\frac{1}{2x}+C$	$\frac{2}{x}+C$
Integralni hisoblang: $\int\frac{1}{x+10}dx=?$	$\ln(x+10)+C$	$2\ln(2x+3)+C$	$-\frac{1}{(2x+3)^2}+C$	$\frac{1}{2}(2x+3)+C$
$\int\cos(3x-2)dx$ integralni hisoblang.	$\frac{1}{3}\sin(3x-2)+C$	$\sin(3x-2)+C$	$\frac{1}{3}\cos(3x-2)+C$	$\cos(3x-2)+C$
$\int(x+\sqrt{x}-\sin 3x)dx$ integralni hisoblang.	$\frac{1}{2}x^2+\frac{2}{3}x^{\frac{3}{2}}+\frac{1}{3}\cos 3x+C$	$x^2+x^{\frac{3}{2}}+\cos 3x+C$	$\frac{1}{2}x^2+x^{\frac{3}{2}}+\cos 3x+C$	$x^2+\frac{2}{3}x^{\frac{3}{2}}+\cos 3x+C$

$f(x)=2x-\frac{4}{x}$ funksiyaning boshlang'ich funksiyasini toping.	$x^2-4\ln x+C$	$\frac{x^2}{2}+10x+C$	$\frac{x^2}{2}+5\ln x+C$	$\frac{x^2}{2}-x+C$
Integralni hisoblang $\int\frac{1}{\cos^2 7x}dx=?$	$\frac{1}{7}tg\ 7x+C$	$\arcsin 7x+C$	$-\frac{1}{3}tg\ 7x+C$	$\frac{1}{3}ctg\ 7x+C$
$\int tg^2 x\,dx$ integralni hisoblang.	$tgx-x+C$	$ctgx+x+C$	$2tgx+C$	$ctgx+1+C$
Integralni hisoblang: $\int 3^{3x}dx=?$	$\frac{3^{3x}}{3\ln 3}+C;$	$3\cdot 3^{3x}\ln 2+C;$	$2^{3x}\ln 2+C;$	$\frac{2^{3x}}{\ln 3}+C;$
Integralni hisoblang: $\int e^{x+1}dx=?$	$e^{x+1}+C;$	$4e^{4x+1}+C;$	$\frac{e^{4x+2}}{4x+2}+C;$	$e^{4x+1}+C;$
Integralni hisoblang: $\int\frac{1}{\cos^2 5x}dx=?$	$\frac{1}{5}tg\ 5x+C;$	$\arcsin 5x+C;$	$\frac{1}{5}ctg\ 5x+C;$	$-\frac{1}{5}tg\ 5x+C;$
$\int(2x-1)^{10}dx$ integralni hisoblang.	$\frac{1}{22}(2x-1)^{11}+C$	$\frac{1}{11}(2x-1)^{11}+C$	$\frac{1}{22}(2x+1)^{11}+C$	$\frac{1}{11}(2x+1)^{11}+C$
Integralni hisoblang: $\int_0^2 x^2dx$	$\frac{8}{3}$	-4	4	$\frac{16}{3}$
Integralni hisoblang: $\int_{-1}^{0}3(2x+1)^2dx$	1	2	$\frac{1}{2}$	$\frac{1}{3}$

Integralni hisoblang: $\int_{-1}^{0} e^{-x}dx$	$-1+e$	e	$\frac{1}{e}-1$	5
Integralni hisoblang: $\int_{1}^{2} \frac{dx}{x+1}$	$\ln\frac{3}{2}$	0	$\ln 3$	$\ln 3-1$
Integralni hisoblang: $\int_{0}^{\pi} \sin x dx$	2	1	-1	-2
Integralni hisoblang: $\int_{0}^{2} x^3 dx$	4	2	5	1
Integralni hisoblang: $\int_{0}^{\pi} \sin 2x dx$	0	-1	1	2
Integralni hisoblang: $\int_{\pi/2}^{\pi} \cos x dx$	-1	0	1	-2
Integralni hisoblang: $\int_{3}^{5} \frac{dx}{x-1}$	$\ln 2$	$\ln\frac{3}{2}$	$\ln\frac{4}{3}$	1
Integralni hisoblang: $\int_{-1}^{0} (2x+1)^2 dx$	$\frac{1}{3}$	1	-3	-1

Integralni hisoblang: $\int_{-1}^{0} 2e^{-x}dx$	$-2+2e$	e	$\frac{1}{e}-1$	5
Integralni hisoblang: $\int\left(2x^3-\frac{1}{1+x^2}\right)dx-?$	$\frac{x^4}{2}-arctgx+C$	$2x+5+C$	$\cos x+51x+C$	$9x^2+C$
Integralni hisoblang: $3\int_{-1}^{0}(2x+1)^2\,dx$	1	0	-3	-1
Integralni hisoblang: $\int_{-1}^{0} 2e^{-x}dx$	$-2+2e$	e	$\frac{1}{e}-1$	5
Integralni hisoblang: $\int_{0}^{\pi/2}\cos x dx$	1	-1	0	$\frac{\pi}{2}$
Integralni hisoblang: $\int_{0}^{1}\frac{dx}{1+x^2}$	$\frac{\pi}{4}$	-1	1	2
Integralni hisoblang: $\int_{0}^{1}\frac{dx}{\sqrt{1-x^2}}$	$\frac{\pi}{2}$	0	1	1
Quyidagi tengliklardan qaysi biri o‘rinli?	$\int_a^b f(x)dx=-\int_b^a f(x)dx$	$\int_a^{-b} f(x)dx=\int_a^b f(x)dx$	$\int_{-a}^{a} f(x)dx=0$	$\int_{-a}^{-b} f(x)dx=-\int_a^b f(x)dx$

Integralni hisoblang: $\int_0^{\pi/2} \cos 2x dx$	0	-1	5	$\frac{1}{2}$
Aniq integralni hisoblang $\int_0^1 \frac{dx}{\sqrt{x}}$	2	0	-1	-3
Aniq integralni hisoblang $\int_0^1 \frac{dx}{\sqrt[3]{x}}$	$\frac{3}{2}$	-1	-2	0
α ning qanday qiymatida $\int_1^{+\infty} \frac{dx}{x^\alpha}$ xosmas integral yaqinlashuvchi bo'ladi?	$\alpha > 1$	$\alpha = -1$	$\alpha < 1$	$\alpha = 0$
α ning qanday qiymatida $\int_1^{+\infty} \frac{dx}{x^\alpha}$ xosmas integral uzoqlashuvchi bo'ladi?	$\alpha \le 1$	$\alpha > 1$	$\alpha = 2$	$\alpha = 3$
α ning qanday qiymatida $\int_0^1 \frac{dx}{x^\alpha}$ xosmas integral yaqinlashuvchi bo'ladi?	$\alpha < 1$	$\alpha > 1$	$\alpha = 2$	$\alpha = 1$
α ning qanday qiymatida $\int_0^1 \frac{dx}{x^\alpha}$ xosmas integral uzoqlashuvchi bo'ladi?	$\alpha \ge 1$	$\alpha = 2$	$\alpha = 3$	$\alpha < 1$
Sonli qatorning yig'ndisini toping $\sum_{n=1}^{\infty} \frac{1}{2^n}$	1	0	3	-1

Sonli qatorning yig'ndisini toping $\sum_{n=1}^{\infty}\frac{1}{n(n+1)}$	1	-1	0	-2
Agar sonli qator yaqinlashuvchi bo'lsa, uning umumiy hadi qaysi songa intilishi zarur?	0	3	-1	2
Nuqtalar o'rniga zarur so'zlarni qo'ying: Tashlab yuborilgan … hadlar qatorning yaqinlashuviga yoki uzoqlashuviga ta'sir qilmaydi.	chekli sondagi	cheksiz sondagi	juft o'rinda turgan barcha	toq o'rinda turgan barcha
Nuqtalar o'rniga zarur so'zlarni qo'ying: Agar musbat hadli qator uchun $\lim_{n\to\infty}\sqrt[n]{a_n}=p$ limit mavjud va …. bo'lsa, u holda bu qator yaqinlashadi	$p<1$	$p>1$	$p=1$	$p=2$
Ko'rsatilgan qatorlardan qaysi biri yaqinlashuvchi ?	$\sum_{n=1}^{\infty}\frac{1}{n^3}$	$\sum_{n=1}^{\infty}\frac{1}{n}$	$\sum_{n=1}^{\infty}\frac{n+2}{n+1}$	$\sum_{n=1}^{\infty}(-1)^n$
Ko'rsatilgan qatorlardan qaysi biri uzoqlashuvchi ?	$\sum_{n=1}^{\infty}\frac{1}{n}$	$\sum_{n=1}^{\infty}\frac{1}{n^3}$	$\sum_{n=1}^{\infty}\frac{n+1}{n^3+2}$	$\sum_{n=1}^{\infty}\frac{1}{2^n}$
Qanday α da $\sum_{n=1}^{\infty}\frac{1}{n^{\alpha}}$ sonli qator yaqinlashuvchi?	$\alpha>1$	$\alpha=1$	$\alpha<1$	$\alpha=0$
Qanday α da $\sum_{n=1}^{\infty}\frac{1}{n^{\alpha}}$ sonli qator uzoqlashuvchi?	$\alpha\le 1$	$\alpha>1$	$\alpha=2$	$\alpha=3$

Ko’rsatilgan qatorlardan qaysi biri yaqinlashuvchi ?	$\sum_{n=1}^{\infty}\frac{2^n}{n!}$	$\sum_{n=1}^{\infty}\frac{n+2}{n+1}$	$\sum_{n=1}^{\infty}\frac{1}{n}$	$\sum_{n=1}^{\infty}(-1)^n$
Ko’rsatilgan qatorlardan qaysi biri yaqinlashuvchi ?	$\sum_{n=1}^{\infty}\left(\frac{2}{n+1}\right)^n$	$\sum_{n=1}^{\infty}\frac{n^2+1}{n+2}$	$\sum_{n=1}^{\infty}\frac{1}{n}$	$\sum_{n=1}^{\infty}n^2$
Ko’rsatilgan qatorlardan qaysi biri absolyut yaqinlashuvchi ?	$\sum_{n=1}^{\infty}(-1)^n\frac{1}{n^2}$	$\sum_{n=1}^{\infty}(-1)^n$	$\sum_{n=1}^{\infty}\sin n$	$\sum_{n=1}^{\infty}(-1)^n\frac{1}{n}$
Ko’rsatilgan qatorlardan qaysi biri shartli yaqinlashuvchi ?	$\sum_{n=1}^{\infty}(-1)^n\frac{1}{n}$	$\sum_{n=1}^{\infty}\frac{\sin n}{n^2}$	$\sum_{n=1}^{\infty}\sin n$	$\sum_{n=1}^{\infty}(-1)^n\frac{1}{n^2}$
α ning qanday qiymatlarida $\sum_{n=1}^{\infty}(-1)^{n-1}\frac{1}{n^\alpha}$ sonli qator absolyut yaqinlashuvchi bo’ladi?	$\alpha>1$	$\alpha=1$	$\alpha<1$	$\alpha=0$
Tasdiqni davom ettiring: Agar sonli qator $\sum_{n=1}^{\infty}\lvert a_n\rvert$ yaqinlashsa, u holda $\sum_{n=1}^{\infty}a_n$	ham yaqinlashadi	uzoqlashadi	manfiy yig’indiga ega	uzoqlashishi ham yaqinlashishi ham mumkin
Absolyut yaqinlashuvchi qatorning hadlarining o’rnini almashtirganda, hosil bo`lgan yangi qator …….	ham yaqinlashadi	uzoqlashadi	ba’zida yaqinlashadi	yaqinlashishi ham va uzoqlashishi ham mumkin
$f(x)=1+\cos 3x$ funksiyaning boshlang’ich funksiyasini toping.	$F(x)=x+\frac{1}{3}\sin 3x+C$	$F(x)=x+\sin 3x+C$	$F(x)=\frac{1}{3}\sin 3x+C$	$F(x)=\sin 3x+C$

Integralni hisoblang: $\int x\ln x\,dx$ toping	$\frac{1}{2}x^2\ln x-\frac{1}{4}x^2+C$	$\frac{1}{2}x^2\ln x+C$	$x\ln x+x^2+C$	$x^2\ln x-\frac{1}{2}x^2+C$
$\int_0^2 \frac{dx}{x^2+4}$ integralni hisoblang.	$\frac{\pi}{8}$	$\frac{\pi}{4}$	$\frac{\pi}{3}$	$\frac{\pi}{2}$
$\int_0^3 e^{\frac{x}{3}}\,dx$ integralni hisoblang.	$3(e-1)$	$3e$	e	$3+e$

Fan bo‘yicha mas’ul:
Matematika kafedrasi