



Sveiki atvykę į VGTU.

Fakultetas:

Fundamentinių mokslų

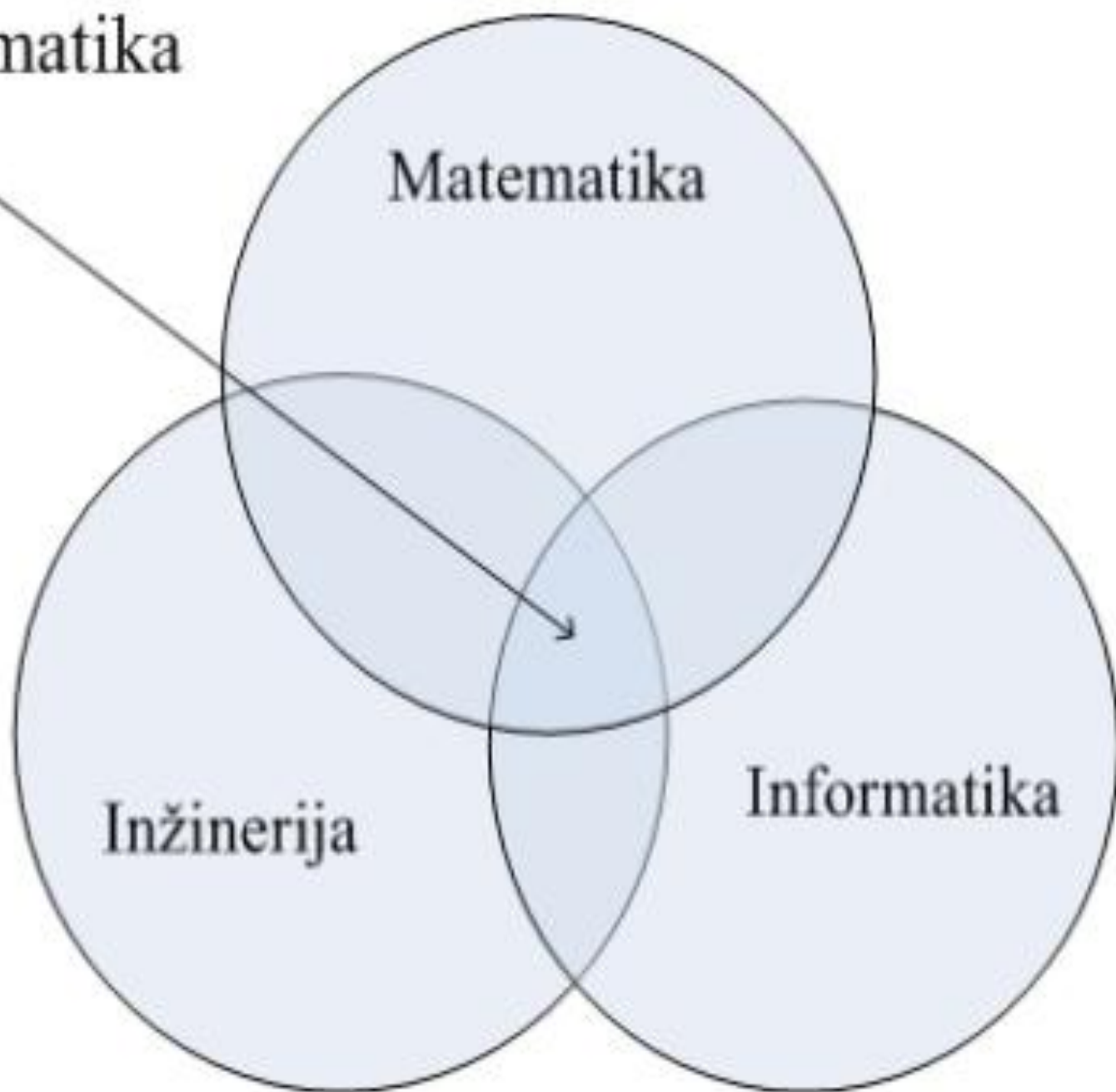
Katedra:

Matematinio modeliavimo

Studijų programa:

Technomatematika

Technomatematika



*Gedo sapnas apie
Technomatematikos
miestą
(Pasaką)*

**Liko mažiau nei 100 dienų
iki taip laukiamos mokslų
pabaigos...**

Kur stoti?



Gedas

**“Klausyk savo širdies ir
rasi atsakymą”.**

Aš miegu?



Gedas

Kaip gražu!



Gedas

**Gerbiamasis, kodėl
svajojate, o ne
dirbate?**



Gedas



Varžtas

**Atleiskite, aš tiesiog užklydau
į šį miestą ieškodamas atsakymo
į klausimą „KUR STUDIJUOTI“.**



Gedas



Varžtas

**Mūsu miestui nekada ne
bus per daug darbo
jēgos - rastume ir tau
kokļ darbelj.**



Gedas



Varžtas

Koks čia per miestas
?
Ką visi taip įnirtingai
statote?



Gedas



Varžtas

**Mūsu miestas vadinasi
Inžinerija. Jame gyvena
vieni inžinieriai, todėl čia
nuolat kas nors
konstruojama ir statoma.**



Gedas



Varžtas

**Projektuotojas Strypas
ieško jūsų, jis nori, kad
perduotumėt jam
apskaičiuotas
deformacijas ir įrašas.**



Gedas



Šalies gyventojas



Varžtas

**Na, jaunuoli, turiu eiti.
Pagalvok, ką pasakiau.
Tapdamas inžinieriumi
nepasigailėsi. Tikiuosi
dar pasimatysime.**



Gedas



Varžtas

**Jei nieko ir nerasčiau
daugiau,
bet kada galėsiu grįžt į
Inžinerijos miestą.**



Gedas

**Pažiūrėsiu, ar čia
dar kas nors yra...**



Gedas



Oho kiek čia kompiuterių



Gedas



Atsiprašau, ar galiu su
Jumis pakalbėti?



Gedas



Baitas

**Kodėl tu su manimi
kalbi gyvai?
Negi nežinai, kad darbo
metu
bendraujama tik
kompiuteriu?**



Gedas



Baitas

**Užklydau į jūsų miestą ieškodamas
atsakymo „KUR STUDIJUOTI“**



Gedas

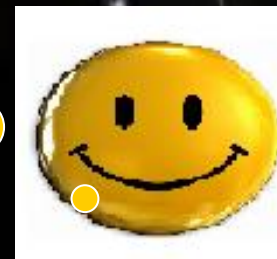


Baitas

**Na, mūsu miestas
sukūrēs vienu
geriausių informacijos
paieškos
sistemu. Galētum ja
pasinaudoti.**



Gedas



Baitas



**Kaip vadinasi jūsu miestas ?
Kuo jūs užsiimat ?**



Gedas



Baitas

**Mūsu miestas -
Informatika.
Mes, informatikai,
kuriame
technologijas, kurios
plečia
žmogaus galimybes.**



Gedas



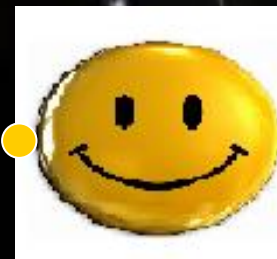
Baitas

**Tik mūsu dēka žmonės gali
bendrauti būdami skirtinguose
pasaulio taškuose.**

**Tik mūsu dēka galima saugoti
didžiulius kiekius informacijos
ir juos apdoroti.**



Gedas

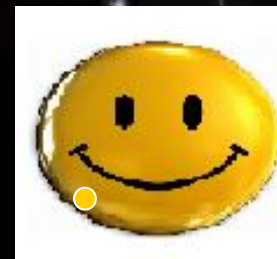


Baitas

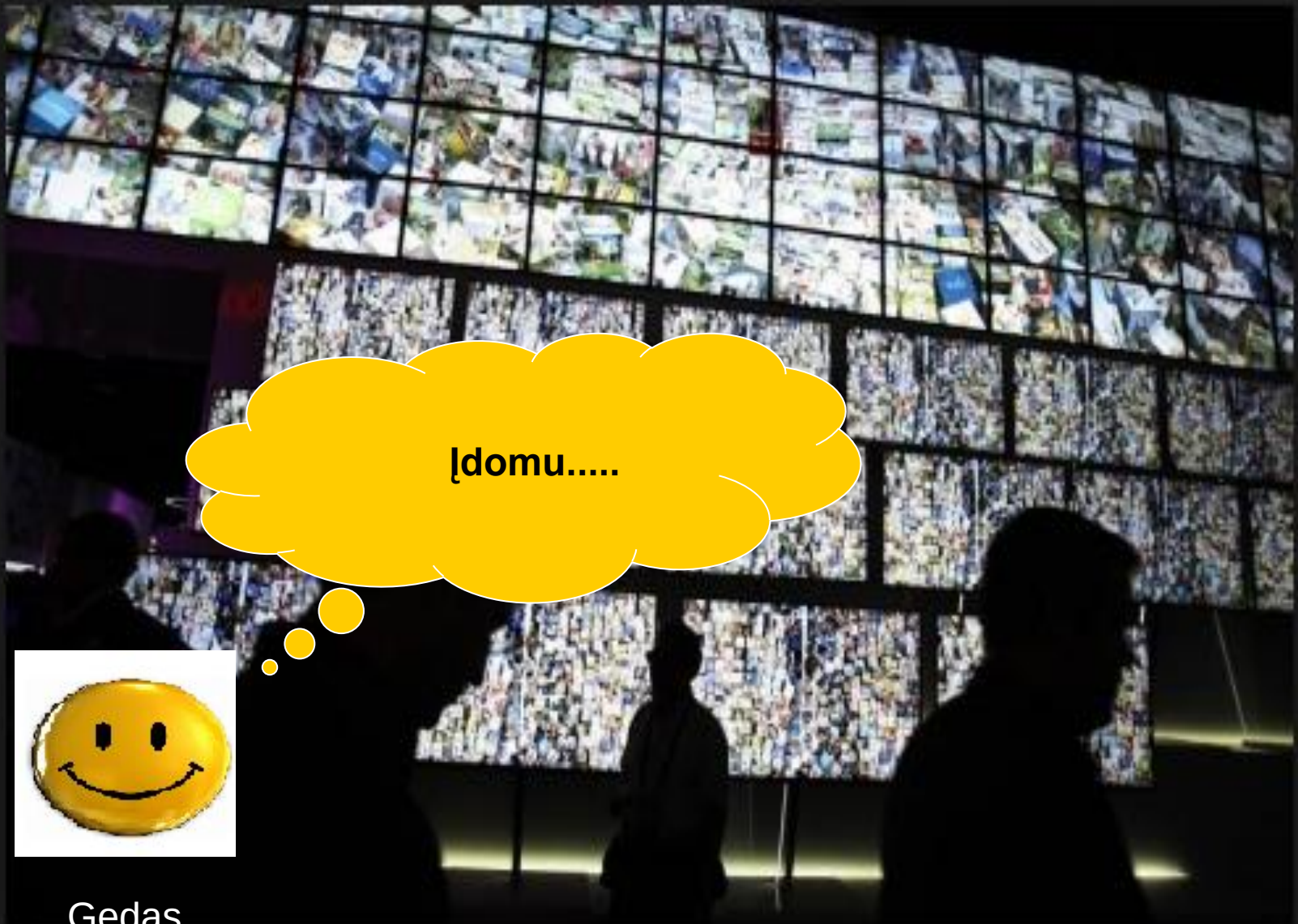
**Nei viena sritis
neapsieina
be mūsu technologiju ir
paslaugu. Atsiprašau,
turiu dirbti.**



Gedas



Baitas



İdomu.....



Gedas

**Pažiūrėsiu, ar čia
dar kas nors yra...**



Gedas

$$\begin{aligned}
 & \int f(x) dx \quad \left(\sum_{j=1}^n a_j u_j(x) \right)' = \sum_{j=1}^n a_j u_j'(x) \quad c = \lim_{x \rightarrow a} f(x), \quad d = \lim_{x \rightarrow b} f(x) \\
 & \Delta F = F(x_0 + \Delta x_0) - F(x_0) \quad I_1 = \int_{x_0}^{x_1} \frac{1}{x} dx \quad \{x_n \pm y_n\} = \{x_n, \pm y_n\} \\
 & \lim_{n \rightarrow \infty} \frac{(\sqrt[n]{n+2})^3 - (\sqrt[n]{n})^3}{(\sqrt[n]{n+2})^2 + (\sqrt[n]{n+2})} = \lim_{n \rightarrow \infty} \frac{(\sqrt[n]{n+2} - \sqrt[n]{n})^3}{(\sqrt[n]{n+2})^2 + (\sqrt[n]{n+2})} \\
 & \left(1 + \frac{1}{n}\right)^{n+1} < \left(1 + \frac{1}{n}\right)^{n+1} \quad a = \psi\left(\frac{1}{2}\right) = \left[\psi\left(\frac{1}{4}\right)\right]^2 \\
 & \int \pi f^2(x) dx = \int \pi \left(\frac{r}{h} x\right)^2 dx = \int \frac{\pi r^2}{h^2} x^2 dx = \int \frac{\pi r^2}{h^2} x^2 dx \left[u_1(x) + u_2(x) + \dots + u_n(x) \right] dx \\
 & \lim_{x \rightarrow \infty} x^3 \left[\frac{1}{3} + \frac{3}{x} + \frac{5}{x^2} + \frac{1}{x^3} \right] = P_n(z_0) = \sum_{k=0}^n a_k z_0^k = 0 \quad \lim_{x \rightarrow \infty} f(x) = \frac{1}{x} \\
 & \int f_j(x) dx + C \quad (a+x)^n = \sum_{k=0}^n C_n^k a^{n-k} x^k \int \left(\sum_{j=1}^n A_j f_j(x) \right) dx = \sum_{j=1}^n A_j \int f_j(x) dx \\
 & z^{n-2} + a^2 z^{n-3} + \dots + a^{n-1} \quad I_1 = \int \frac{1}{x} dx \quad z^n - a^n = (z-a)(z^{n-1} + a z^{n-2} + \dots + a^{n-1}) \\
 & = a_0 + a_1 z + \dots + a_n z^n = \sum_{k=0}^n a_k z^k \quad (a \neq 0) \quad P_n(z) = a_0 + a_1 z \quad P_n(z) \\
 & a(x+h) - \log_a x = \quad a = \psi\left(\frac{1}{2}\right) \quad (\log_a x)' = \lim_{h \rightarrow 0} \frac{\log_a(x+h) - \log_a x}{h} \\
 & \lim_{h \rightarrow 0} \log_a \left(\frac{x+h}{x} \right)^{1/h} = \lim_{h \rightarrow 0} \log_a \frac{1}{x} \left(1 + \frac{h}{x} \right)^{1/h} = \lim_{h \rightarrow 0} \frac{1}{x} \log_a \left(1 + \frac{h}{x} \right)^{1/h} \\
 & P_n(z_0) = \sum_{k=0}^n a_k z_0^k = 0 \quad I = \int \frac{1}{x} dx
 \end{aligned}$$

Lentos, formulės. Kas gi čia vyksta?

kut α	0π 0°	$\frac{\pi}{6}$ 30°	$\frac{\pi}{4}$ 45°	$\frac{\pi}{3}$ 60°	$\frac{\pi}{2}$ 90°	$\frac{2\pi}{3}$ 120°	$\frac{5\pi}{6}$ 150°	π 180°	$\frac{7\pi}{6}$ 210°	$\frac{4\pi}{3}$ 240°	$\frac{3\pi}{2}$ 270°	$\frac{5\pi}{4}$ 315°	$\frac{11\pi}{6}$ 330°	2π 360°			
$\sin \alpha$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	0	$-\frac{1}{2}$	$-\frac{\sqrt{2}}{2}$	$-\frac{\sqrt{3}}{2}$	-1	$-\frac{\sqrt{3}}{2}$	$-\frac{1}{2}$	0		
$\cos \alpha$	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0	$-\frac{1}{2}$	$-\frac{\sqrt{2}}{2}$	-1	$-\frac{\sqrt{3}}{2}$	$-\frac{\sqrt{2}}{2}$	$-\frac{1}{2}$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	1		
$\operatorname{tg} \alpha$	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	$\pm\infty$	$-\sqrt{3}$	-1	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	$\pm\infty$	$-\sqrt{3}$	-1	$-\frac{\sqrt{3}}{3}$	0	
$\operatorname{ctg} \alpha$	$\pm\infty$	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$	0	$-\frac{\sqrt{3}}{3}$	-1	$-\sqrt{3}$	$\pm\infty$	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$	0	$-\frac{\sqrt{3}}{3}$	$-\sqrt{3}$	$\pm\infty$	
	-2π -360°	$-\frac{11\pi}{6}$ -330°	$-\frac{7\pi}{4}$ -315°	$-\frac{5\pi}{3}$ -300°	$-\frac{3\pi}{2}$ -270°	$-\frac{4\pi}{3}$ -240°	$-\frac{5\pi}{6}$ -225°	$-\frac{7\pi}{6}$ -210°	$-\pi$ -180°	$-\frac{5\pi}{6}$ -150°	$-\frac{3\pi}{4}$ -135°	$-\frac{2\pi}{3}$ -120°	$-\frac{\pi}{2}$ -90°	$-\frac{\pi}{3}$ -60°	$-\frac{\pi}{4}$ -45°	$-\frac{\pi}{6}$ -30°	0π 0°



Gedas

$$\int f(x) dx \quad \left(\sum_{j=1}^n a_j u_j(x) \right)' = \sum_{j=1}^n a_j u_j'(x) \quad c = \lim_{x \rightarrow a} f(x), \quad d = \lim_{x \rightarrow b} f(x)$$

$$\Delta F = F(x_0 + \Delta x_0) - F(x_0) \quad I_1 = \int_{x_0}^{x_1} \frac{1}{x} dx \quad \{x_n \pm y_n\} = \{x_n, \pm y_n\}$$

$$\lim_{n \rightarrow \infty} \frac{(\sqrt[n]{n+2})^3 - (\sqrt[n]{n})^3}{(\sqrt[n]{n+2})^2 + (\sqrt[n]{n+2})} = \lim_{n \rightarrow \infty} \frac{(\sqrt[n]{n+2})^3 - (\sqrt[n]{n})^3}{(\sqrt[n]{n+2})^2 + (\sqrt[n]{n+2})} \quad \lim_{n \rightarrow \infty} \left(\sqrt[n]{n+2} - \sqrt[n]{n} \right)$$

$$\left(1 + \frac{1}{n} \right)^{n+1} < \left(1 + \frac{1}{n} \right)^n \quad a = \psi\left(\frac{1}{2}\right) = \left[\psi\left(\frac{1}{2}\right) \right]^2$$

$$\int_0^1 \pi f^2(x) dx = \int_0^1 \pi \left(\frac{x}{h} \right)^2 dx = \int_0^1 \frac{\pi x^2}{h^2} dx = \int_0^1 \frac{\pi x^2}{h^2} dx \left[u_1(x) + u_2(x) + \dots + u_n(x) \right] dx$$

$$\lim_{n \rightarrow \infty} x^3 \left[\frac{1}{3} + \frac{3^0}{x^3} + \frac{5}{x^3} + \frac{1}{x^3} \right] = P_n(z_0) = \sum_{k=0}^n a_k z_0^k = 0 \quad \lim_{x \rightarrow \infty} f(x) = \frac{1}{x}$$

$$4j \int f_j(x) dx + C \quad (a+x)^n = \sum_{k=0}^n C_n^k a^{n-k} x^k \quad \int \left(\sum_{j=1}^n A_j f_j(x) \right) dx = \sum_{j=1}^n A_j \int f_j(x) dx + C$$

$$z^{n-2} + a^2 z^{n-3} + \dots + a^{n-1} \quad I_1 = \int \frac{1}{x} dx \quad z^n - a^n = (z-a)(z^{n-1} + a z^{n-2} + \dots + a^{n-1})$$

$$= a_0 + a_1 z + \dots + a_n z^n = \sum_{k=0}^n a_k z^k \quad P_n(z) = \sum_{k=0}^n a_k z^k \quad P_n(z) = a_0 + a_1 z + \dots + a_n z^n$$

$$a(x+h) - \log_a x = \quad a = \psi\left(\frac{1}{2}\right)$$

$$\lim_{h \rightarrow 0} \log_a \left(\frac{x+h}{x} \right)^{1/h} = \lim_{h \rightarrow 0} \log_a \frac{x+h}{x} \left(1 + \frac{h}{x} \right)$$

$$P_n(z_0) = \sum_{k=0}^n a_k z_0^k = 0 \quad I = \int \frac{1}{x} dx$$

Ar jūs, kolega, nebuvo
priėjęs
prie 5 lentos? Aš ten
pateikiau
Rymano hipotezės
įrodymą,
tik nežinau ar kokių
klaidų
nėpadariau?



Gedas



Integrālas

kut α	0π 0°	$\frac{\pi}{6}$ 30°	$\frac{\pi}{4}$ 45°	$\frac{\pi}{3}$ 60°									$\frac{5\pi}{3}$ 300°	$\frac{7\pi}{4}$ 315°	$\frac{11\pi}{6}$ 330°	2π 360°	
$\sin \alpha$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$									-1	$-\frac{\sqrt{3}}{2}$	$-\frac{\sqrt{2}}{2}$	$-\frac{1}{2}$	0
$\cos \alpha$	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$									0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
$\operatorname{tg} \alpha$	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$									$-\frac{1}{2}$	0	1	$-\frac{\sqrt{3}}{3}$	0
$\operatorname{ctg} \alpha$	$\pm\infty$	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$	0	$-\frac{\sqrt{3}}{3}$	-1	$-\sqrt{3}$	$\pm\infty$	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$			1	$-\sqrt{3}$	$\pm\infty$
	-2π -360°	$-\frac{11\pi}{6}$ -330°	$-\frac{7\pi}{4}$ -315°	$-\frac{5\pi}{3}$ -300°	$-\frac{3\pi}{2}$ -270°	$-\frac{4\pi}{3}$ -240°	$-\frac{5\pi}{4}$ -225°	$-\frac{7\pi}{6}$ -210°	$-\pi$ -180°	$-\frac{5\pi}{6}$ -150°	$-\frac{3\pi}{4}$ -135°	$-\frac{2\pi}{3}$ -120°	$-\frac{\pi}{2}$ -90°	$-\frac{\pi}{3}$ -60°	$-\frac{\pi}{4}$ -45°	$-\frac{\pi}{6}$ -30°	0π 0°

prie šios lentelės? Ar ten
pateikiau
Rymano hipotezės
įrodymą,
tik nežinau ar kokių
klaidų
nepadariau?



Gedas



Integralas

$$\int f(x) dx \quad \left(\sum_{j=1}^n a_j u_j(x) \right)' = \sum_{j=1}^n a_j u_j'(x) \quad c = \lim_{x \rightarrow a} f(x), \quad d = \lim_{x \rightarrow b} f(x)$$

$$\Delta F = F(x_0 + \Delta x_0) - F(x_0) \quad I_1 = \int_{x_0}^{x_1} \frac{1}{x} dx \quad \{x_n \pm y_n\} = \{x_n, \pm y_n\}$$

$$\lim_{n \rightarrow \infty} \frac{(\sqrt[n]{n+2})^3 - (\sqrt[n]{n})^3}{(\sqrt[n]{n+2})^2 + (\sqrt[n]{n+2})} = \lim_{n \rightarrow \infty} \frac{(\sqrt[n]{n+2})^3 - (\sqrt[n]{n})^3}{(\sqrt[n]{n+2})^2 + (\sqrt[n]{n+2})} = \lim_{n \rightarrow \infty} \frac{(\sqrt[n]{n+2})^3 - (\sqrt[n]{n})^3}{(\sqrt[n]{n+2})^2 + (\sqrt[n]{n+2})}$$

$$\left(1 + \frac{1}{n}\right)^{n+1} < \left(1 + \frac{1}{n}\right)^{n+1} \quad a = \psi\left(\frac{1}{2}\right) = \left[\psi\left(\frac{1}{2}\right)\right]^2$$

$$\int_0^1 \pi f^2(x) dx = \int_0^1 \pi \left(\frac{r}{h} x\right)^2 dx = \int_0^1 \frac{\pi r^2}{h^2} x^2 dx \int [u_1(x) + u_2(x) + \dots + u_n(x)] dx$$

$$\lim_{x \rightarrow \infty} x^3 \left[\frac{1}{3} + \frac{3}{x} + \frac{5}{x^2} + \frac{1}{x^3} \right] = P_n(z_0) = \sum_{k=0}^n a_k z_0^k = 0 \quad \lim_{x \rightarrow \infty} f(x) = \frac{1}{x}$$

$$q_j \int f_j(x) dx + C \quad (a+x)^n = \sum_{k=0}^n C_n^k a^{n-k} x^k \int \left(\sum_{j=1}^n A_j f_j(x) \right) dx = \sum_{j=1}^n A_j \int f_j(x) dx + C$$

$$z^{n-2} + a^2 z^{n-3} + \dots + a^{n-1} \quad I_1 = \int \frac{1}{x} dx \quad z^n - a^n = (z-a)(z^{n-1} + a z^{n-2} + \dots + a^{n-1})$$

$$a_0 + a_1 z + \dots + a_n z^n = \sum_{k=0}^n a_k z^k \quad P_n(z) = a_0 + a_1 z$$

$$a(x+h) - \log_a x = a = \psi\left(\frac{1}{2}\right) \quad (\log_a x)' = \lim_{h \rightarrow 0} \frac{\log_a(x+h) - \log_a x}{h}$$

$$\lim_{h \rightarrow 0} \log_a \left(\frac{x+h}{x} \right)^{1/h} = \lim_{h \rightarrow 0} \log_a \frac{1}{x} \left(1 + \frac{h}{x} \right)^{1/h} = \lim_{h \rightarrow 0} \log_a \frac{1}{x} \left(1 + \frac{h}{x} \right)^{1/h}$$

$$\int u_j(x) dx \quad P_n(z_0) = \sum_{k=0}^n a_k z_0^k = 0 \quad I = \int \frac{1}{x} dx$$

Užklydau čia ieškodamas
atsakymo į klausimą
„KUR STUDIJUOTI
Kaip vadinasi jūsų miestas ?

kut α	0π 0°	$\frac{\pi}{6}$ 30°	$\frac{\pi}{4}$ 45°	$\frac{\pi}{3}$ 60°	$\frac{\pi}{2}$ 90°	$\frac{2\pi}{3}$ 120°	$\frac{5\pi}{6}$ 150°	π 180°	$\frac{7\pi}{6}$ 210°	$\frac{4\pi}{3}$ 240°	$\frac{3\pi}{2}$ 270°	$\frac{5\pi}{3}$ 300°	$\frac{7\pi}{4}$ 315°	$\frac{11\pi}{6}$ 330°	2π 360°
sin α	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	0	$-\frac{1}{2}$	$-\frac{\sqrt{2}}{2}$	$-\frac{\sqrt{3}}{2}$	-1	$-\frac{\sqrt{3}}{2}$	$-\frac{\sqrt{2}}{2}$	-1
cos α	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0	$-\frac{1}{2}$	$-\frac{\sqrt{2}}{2}$	$-\frac{\sqrt{3}}{2}$	-1	$-\frac{\sqrt{3}}{2}$	$-\frac{\sqrt{2}}{2}$	$-\frac{1}{2}$	0	$\frac{1}{2}$	1
tg α	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	±∞	$-\sqrt{3}$	-1	$-\frac{\sqrt{3}}{3}$	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	±∞	$\frac{\sqrt{3}}{3}$	0
ctg α	±∞	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$	0	$-\frac{\sqrt{3}}{3}$	-1	$-\sqrt{3}$	±∞	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$	0	$-\sqrt{3}$	±∞
	-2π -360°	$-\frac{11\pi}{6}$ -330°	$-\frac{7\pi}{4}$ -315°	$-\frac{5\pi}{3}$ -300°	$-\frac{3\pi}{2}$ -270°	$-\frac{4\pi}{3}$ -240°	$-\frac{5\pi}{6}$ -225°	$-\frac{7\pi}{6}$ -210°	$-\pi$ -180°	$-\frac{5\pi}{6}$ -150°	$-\frac{3\pi}{4}$ -135°	$-\frac{2\pi}{3}$ -120°	$-\frac{\pi}{2}$ -90°	$-\frac{\pi}{3}$ -60°	$-\frac{\pi}{6}$ -30°



Gedas



Integralas

$$\int f(x) dx \quad \left(\sum_{j=1}^n a_j u_j(x) \right)' = \sum_{j=1}^n a_j u_j'(x) \quad c = \lim_{x \rightarrow a} f(x), \quad d = \lim_{x \rightarrow b} f(x)$$

$$\Delta F = F(x_0 + \Delta x_0) - F(x_0) \quad I_1 = \int_{x_0}^{x_1} \frac{1}{x} dx \quad \{x_n \pm y_n\} = \{x_n, \pm y_n\}$$

$$\lim_{n \rightarrow \infty} \frac{(\sqrt[n]{n+2})^3 - (\sqrt[n]{n})^3}{(\sqrt[n]{n+2})^2 + (\sqrt[n]{n+2})} = \lim_{n \rightarrow \infty} \frac{(\sqrt[n]{n+2} - \sqrt[n]{n})}{(\sqrt[n]{n+2})^2 + (\sqrt[n]{n+2})} = \lim_{n \rightarrow \infty} \frac{(\sqrt[n]{n+2} - \sqrt[n]{n})}{(\sqrt[n]{n+2})^2 + (\sqrt[n]{n+2})}$$

$$\left(1 + \frac{1}{n}\right)^{n+1} < \left(1 + \frac{1}{n}\right)^{n+1} \quad a = \psi\left(\frac{1}{2}\right) = \left[\psi\left(\frac{1}{2}\right)\right]^2$$

$$\int_0^1 \pi f^2(x) dx = \int_0^1 \pi \left(\frac{r}{h} x\right)^2 dx = \int_0^1 \frac{\pi r^2}{h^2} x^2 dx = \int_0^1 \frac{\pi r^2}{h^2} x^2 dx \left[u_1(x) + u_2(x) + \dots + u_n(x) \right] dx$$

$$\lim_{n \rightarrow \infty} x^3 \left[\frac{1}{3} + \frac{3}{x^3} + \frac{5}{x^5} + \frac{1}{x^7} \right] = P_n(z_0) = \sum_{k=0}^n a_k z_0^k = 0 \quad \lim_{x \rightarrow \infty} f(x) = \frac{1}{x}$$

$$q_j \int f_j(x) dx + C \quad (a+x)^n = \sum_{k=0}^n C_n^k a^{n-k} x^k \int \left(\sum_{j=1}^n A_j f_j(x) \right) dx = \sum_{j=1}^n A_j \int f_j(x) dx + C$$

$$z^{n-2} + a^2 z^{n-3} + \dots + a^{n-1} \quad I_1 = \int \frac{1}{x} dx \quad z^n - a^n = (z-a)(z^{n-1} + a z^{n-2} + \dots + a^{n-1})$$

$$a_0 + a_1 z + \dots + a_n z^n = \sum_{k=0}^n a_k z^k \quad (a \neq 0) \quad P_n(z) = a_0 + a_1 z + \dots + a_n z^n$$

$$a(x+h) - \log_a x = a = \psi\left(\frac{1}{2}\right) \quad (\log_a x)' = \lim_{h \rightarrow 0} \frac{\log_a(x+h) - \log_a x}{h}$$

$$\lim_{h \rightarrow 0} \log_a \left(\frac{x+h}{x} \right)^{1/h} = \lim_{h \rightarrow 0} \log_a \frac{x+h}{x} \cdot \frac{1}{h} = \lim_{h \rightarrow 0} \frac{1}{h} \log_a \left(1 + \frac{h}{x} \right)$$

$$P_n(z_0) = \sum_{k=0}^n a_k z_0^k = 0 \quad I = \int \frac{1}{x} dx = \ln|x| + C$$

Aš vardu Integralas.
Mūsų miestas
vadinasi
Matematika.

kut α	0π 0°	$\frac{\pi}{6}$ 30°	$\frac{\pi}{4}$ 45°	$\frac{\pi}{3}$ 60°	$\frac{\pi}{2}$ 90°	$\frac{2\pi}{3}$ 120°	$\frac{5\pi}{6}$ 150°	π 180°	$\frac{7\pi}{6}$ 210°	$\frac{4\pi}{3}$ 240°	$\frac{3\pi}{2}$ 270°	$\frac{5\pi}{3}$ 300°	$\frac{7\pi}{4}$ 315°	$\frac{11\pi}{6}$ 330°	2π 360°
$\sin \alpha$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	0	$-\frac{\sqrt{2}}{2}$	$-\frac{\sqrt{3}}{2}$	-1	$-\frac{\sqrt{3}}{2}$	$-\frac{\sqrt{2}}{2}$	$-\frac{1}{2}$	0
$\cos \alpha$	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0	$-\frac{1}{2}$	$-\frac{\sqrt{2}}{2}$	$-\frac{\sqrt{3}}{2}$	-1	$-\frac{\sqrt{3}}{2}$	$-\frac{\sqrt{2}}{2}$	$-\frac{1}{2}$	0	$\frac{1}{2}$	1
$\operatorname{tg} \alpha$	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	$\pm\infty$	$-\sqrt{3}$	-1	$-\frac{\sqrt{3}}{3}$	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	$\pm\infty$	$-\frac{\sqrt{3}}{3}$	0
$\operatorname{ctg} \alpha$	$\pm\infty$	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$	0	$-\frac{\sqrt{3}}{3}$	-1	$-\sqrt{3}$	$\pm\infty$	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$	0	$-\frac{\sqrt{3}}{3}$	$\pm\infty$
	-2π -360°	$-\frac{11\pi}{6}$ -330°	$-\frac{7\pi}{4}$ -315°	$-\frac{5\pi}{3}$ -300°	$-\frac{3\pi}{2}$ -270°	$-\frac{4\pi}{3}$ -240°	$-\frac{5\pi}{6}$ -225°	$-\frac{7\pi}{6}$ -210°	$-\pi$ -180°	$-\frac{5\pi}{6}$ -150°	$-\frac{3\pi}{4}$ -135°	$-\frac{2\pi}{3}$ -120°	$-\frac{\pi}{2}$ -90°	$-\frac{\pi}{3}$ -60°	0π 0°



Gedas



Integralas

$$\int f(x) dx \quad \left(\sum_{j=1}^n a_j u_j(x) \right)' = \sum_{j=1}^n a_j u_j'(x) \quad c = \lim_{x \rightarrow a} f(x), \quad d = \lim_{x \rightarrow b} f(x)$$

$$\Delta F = F(x_0 + \Delta x_0) - F(x_0) \quad I_1 = \int_{x_0}^{x_1} \frac{1}{x} dx \quad \{x_n \pm y_n\} = \{x_n, \pm y_n\}$$

$$\lim_{n \rightarrow \infty} \frac{(\sqrt[n]{n+2})^3 - (\sqrt[n]{n})^3}{(\sqrt[n]{n+2})^2 + (\sqrt[n]{n+2})} = \lim_{n \rightarrow \infty} \frac{(\sqrt[n]{n+2} - \sqrt[n]{n})}{(\sqrt[n]{n+2})^2 + (\sqrt[n]{n+2})} = \lim_{n \rightarrow \infty} \frac{(\sqrt[n]{n+2} - \sqrt[n]{n})}{(\sqrt[n]{n+2})^2 + (\sqrt[n]{n+2})}$$

$$\left(1 + \frac{1}{n}\right)^{n+1} < \left(1 + \frac{1}{n}\right)^n \quad a = \psi\left(\frac{1}{q}\right) = [\psi\left(\frac{1}{q}\right)]^q$$

$$\int_0^1 \pi f^2(x) dx = \int_0^1 \pi \left(\frac{r}{h} x\right)^2 dx = \int_0^1 \frac{\pi r^2}{h^2} x^2 dx = \int_0^1 \frac{\pi r^2}{h^2} x^2 dx [u_1(x) + u_2(x) + \dots + u_n(x)] dx$$

$$\lim_{n \rightarrow \infty} x^3 \left[\frac{1}{3} + \frac{3}{x^3} + \frac{5}{x^5} + \frac{1}{x^7} \right] = P_n(z_0) = \sum_{k=0}^n a_k z_0^k = 0 \quad \lim_{x \rightarrow \infty} f(x) = \frac{1}{x}$$

$$q_j \int f_j(x) dx + C \quad (a+x)^n = \sum_{k=0}^n C_n^k a^{n-k} x^k \quad \int \left(\sum_{j=1}^n A_j f_j(x) \right) dx = \sum_{j=1}^n A_j \int f_j(x) dx$$

$$z^{n-2} + a^2 z^{n-3} + \dots + a^{n-1} \quad I_1 = \int \frac{1}{x} dx \quad z^n - a^n = (z-a)(z^{n-1} + a z^{n-2} + \dots + a^{n-1})$$

$$a_0 + a_1 z + \dots + a_n z^n = \sum_{k=0}^n a_k z^k \quad (a \neq 0) \quad P_n(z) = a_0 + a_1 z + \dots + a_n z^n$$

$$a(x+h) - \log_a x = a = \psi\left(\frac{1}{q}\right) \quad (\log_a x)' = \lim_{h \rightarrow 0} \frac{\log_a \frac{x+h}{x} - \log_a \frac{x}{x}}{h} = \lim_{h \rightarrow 0} \frac{\log_a \left(1 + \frac{h}{x}\right) - 0}{h} = \lim_{h \rightarrow 0} \frac{1}{x} \log_a \left(1 + \frac{h}{x}\right)$$

$$\lim_{h \rightarrow 0} \log_a \left(\frac{x+h}{x}\right)^{1/h} = \lim_{h \rightarrow 0} \log_a \frac{x}{x} \left(1 + \frac{h}{x}\right)^{1/h} = \lim_{h \rightarrow 0} \frac{1}{x} \log_a \left(1 + \frac{h}{x}\right)$$

$$P_n(z_0) = \sum_{k=0}^n a_k z_0^k = 0 \quad I = \int \frac{1}{x} dx = \ln|x| + C$$

Matematiko mintis
tarsi Kolumbas
nuolat veržiasi į
naujas
žemes ir horizontus.

kut α	0π 0°	$\frac{\pi}{6}$ 30°	$\frac{\pi}{4}$ 45°	$\frac{\pi}{3}$ 60°	$\frac{\pi}{2}$ 90°	$\frac{2\pi}{3}$ 120°	$\frac{5\pi}{6}$ 150°	π 180°	$\frac{7\pi}{6}$ 210°	$\frac{4\pi}{3}$ 240°	$\frac{3\pi}{2}$ 270°	$\frac{5\pi}{3}$ 300°	$\frac{7\pi}{4}$ 315°	$\frac{11\pi}{6}$ 330°	2π 360°
$\sin \alpha$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	0	$-\frac{\sqrt{2}}{2}$	$-\frac{\sqrt{3}}{2}$	-1	$-\frac{\sqrt{3}}{2}$	$-\frac{\sqrt{2}}{2}$	$-\frac{1}{2}$	0
$\cos \alpha$	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0	$-\frac{1}{2}$	$-\frac{\sqrt{2}}{2}$	$-\frac{\sqrt{3}}{2}$	-1	$-\frac{\sqrt{3}}{2}$	$-\frac{\sqrt{2}}{2}$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$
$\operatorname{tg} \alpha$	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	$\pm\infty$	$-\sqrt{3}$	-1	$-\frac{\sqrt{3}}{3}$	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$	0
$\operatorname{ctg} \alpha$	$\pm\infty$	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$	0	$-\frac{\sqrt{3}}{3}$	-1	$-\sqrt{3}$	$\pm\infty$	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$	1	$\frac{\sqrt{3}}{3}$	$\pm\infty$
	-2π -360°	$-\frac{11\pi}{6}$ -330°	$-\frac{7\pi}{4}$ -315°	$-\frac{5\pi}{3}$ -300°	$-\frac{3\pi}{2}$ -270°	$-\frac{4\pi}{3}$ -240°	$-\frac{5\pi}{6}$ -225°	$-\frac{7\pi}{6}$ -210°	$-\pi$ -180°	$-\frac{5\pi}{6}$ -150°	$-\frac{3\pi}{4}$ -135°	$-\frac{2\pi}{3}$ -120°	$-\frac{\pi}{2}$ -90°	$-\frac{\pi}{3}$ -60°	0π 0°



Gedas



Integrālas

$$\int f(x) dx \quad \left(\sum_{j=1}^n a_j u_j(x) \right)' = \sum_{j=1}^n a_j u_j'(x) \quad c = \lim_{x \rightarrow a} f(x), \quad d = \lim_{x \rightarrow b} f(x)$$

$$\Delta F = F(x_0 + \Delta x_0) - F(x_0) \quad I_1 = \int_{x_0}^{x_1} \frac{1}{x} dx \quad \{x_n \pm y_n\} = \{x_n, \pm y_n\}$$

$$\lim_{n \rightarrow \infty} \frac{(\sqrt[n]{n+2})^3 - (\sqrt[n]{n})^3}{(\sqrt[n]{n+2})^2 + (\sqrt[n]{n+2})} = \lim_{n \rightarrow \infty} \frac{(\sqrt[n]{n+2})^3 - (\sqrt[n]{n})^3}{(\sqrt[n]{n+2})^2 + (\sqrt[n]{n+2})} = \lim_{n \rightarrow \infty} \frac{(\sqrt[n]{n+2})^3 - (\sqrt[n]{n})^3}{(\sqrt[n]{n+2})^2 + (\sqrt[n]{n+2})}$$

$$\left(1 + \frac{1}{n}\right)^{n+1} < \left(1 + \frac{1}{n}\right)^n \quad a = \psi\left(\frac{1}{2}\right) = \left[\psi\left(\frac{1}{2}\right)\right]^2$$

$$\int_0^1 \pi f^2(x) dx = \int_0^1 \pi \left(\frac{r}{h} x\right)^2 dx = \int_0^1 \frac{\pi r^2}{h^2} x^2 dx \int [u_1(x) + u_2(x) + \dots + u_n(x)] dx = \sum_{j=1}^n \int_0^1 u_j(x) dx$$

$$\lim_{n \rightarrow \infty} x^3 \left[\frac{1}{3} + \frac{3^2}{x^2} + \frac{5}{x^2} + \frac{1}{x^2} \right] = P_n(z_0) = \sum_{k=0}^n a_k z_0^k = 0 \quad \lim_{x \rightarrow \infty} f(x) = \frac{1}{x}$$

$$q_j \int f_j(x) dx + C \quad (a+x)^n = \sum_{k=0}^n C_n^k a^{n-k} x^k \int \left(\sum_{j=1}^n A_j f_j(x) \right) dx = \sum_{j=1}^n A_j \int f_j(x) dx + C$$

$$z^{n-2} + a^2 z^{n-3} + \dots + a^{n-1} \quad I_1 = \int \frac{1}{x} dx \quad z^n - a^n = (z-a)(z^{n-1} + a z^{n-2} + \dots + a^{n-1})$$

$$a_0 + a_1 z + \dots + a_n z^n = \sum_{k=0}^n a_k z^k \quad P_n(z) = a_0 + a_1 z + \dots + a_n z^n \quad P_n(z)$$

$$a(x+h) - \log_a x = \log_a \frac{a(x+h)}{x} = \log_a \left(1 + \frac{h}{x}\right) \quad a = \psi\left(\frac{1}{2}\right) \quad (\log_a x)' = \lim_{h \rightarrow 0} \frac{\log_a \frac{x+h}{x} - \log_a x}{h/x}$$

$$\lim_{h \rightarrow 0} \log_a \left(1 + \frac{h}{x}\right)^{1/h} = \lim_{h \rightarrow 0} \log_a \frac{1}{x} \left(1 + \frac{h}{x}\right)^{1/h} = \lim_{h \rightarrow 0} \frac{1}{x} \log_a \left(1 + \frac{h}{x}\right)^{1/h}$$

$$\int u_j(x) dx \quad P_n(z_0) = \sum_{k=0}^n a_k z_0^k = 0 \quad I = \int \frac{1}{x} dx = \ln|x| + C$$

Jis kaip pranašas
skelbia idėjas,
kurias suvokti ir
priimti kartais
net šimtmečių
prireikia.



Gedas



Integrālas

kut α	0π 0°	$\frac{\pi}{6}$ 30°	$\frac{\pi}{4}$ 45°	$\frac{\pi}{3}$ 60°	$\frac{\pi}{2}$ 90°	$\frac{2\pi}{3}$ 120°	$\frac{5\pi}{6}$ 150°	π 180°	$\frac{7\pi}{6}$ 210°	$\frac{4\pi}{3}$ 240°	$\frac{3\pi}{2}$ 270°	$\frac{5\pi}{3}$ 300°	$\frac{7\pi}{4}$ 315°	$\frac{11\pi}{6}$ 330°	2π 360°
sin α	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	0	$-\frac{1}{2}$	$-\frac{\sqrt{2}}{2}$	$-\frac{\sqrt{3}}{2}$	-1	$-\frac{\sqrt{3}}{2}$	$-\frac{1}{2}$	0
cos α	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0	$-\frac{1}{2}$	$-\frac{\sqrt{2}}{2}$	$-\frac{\sqrt{3}}{2}$	-1	$-\frac{\sqrt{3}}{2}$	$-\frac{1}{2}$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	1
tg α	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	±∞	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$	$\frac{1}{\sqrt{3}}$	0	$-\frac{1}{\sqrt{3}}$	-1	$-\sqrt{3}$	$-\frac{1}{\sqrt{3}}$	0
ctg α	±∞	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$	0	$-\frac{\sqrt{3}}{3}$	-1	$-\sqrt{3}$	±∞	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$	1	$-\sqrt{3}$	±∞
	-2π -360°	$-\frac{11\pi}{6}$ -330°	$-\frac{7\pi}{4}$ -315°	$-\frac{5\pi}{3}$ -300°	$-\frac{3\pi}{2}$ -270°	$-\frac{4\pi}{3}$ -240°	$-\frac{5\pi}{6}$ -225°	$-\frac{7\pi}{6}$ -210°	-π -180°	$-\frac{5\pi}{6}$ -150°	$-\frac{3\pi}{4}$ -135°	$-\frac{2\pi}{3}$ -120°	$-\frac{\pi}{2}$ -90°	$-\frac{\pi}{3}$ -60°	0π 0°

$$f(x), \left(\sum_{j=1}^n a_j u_j(x) \right)' = \sum_{j=1}^n a_j u_j'(x), \quad c = \lim_{x \rightarrow a} f(x), \quad d = \lim_{x \rightarrow a} g(x)$$

$$\Delta F = F(x_0 + \Delta x_0) - F(x_0), \quad I_1 = \int_{x_0}^{x_1} \frac{1}{x} dx, \quad \{x_n \pm y_n\} = \{x_n, \pm y_n\}$$

$$\lim_{n \rightarrow \infty} \frac{(\sqrt[n]{n+2})^3 - (\sqrt[n]{n})^3}{(\sqrt[n]{n+2})^2 + (\sqrt[n]{n+2})} = \lim_{n \rightarrow \infty} \frac{(\sqrt[n]{n+2} - \sqrt[n]{n})}{(\sqrt[n]{n+2})^2 + (\sqrt[n]{n+2})} = \lim_{n \rightarrow \infty} \frac{(\sqrt[n]{n+2} - \sqrt[n]{n})}{(\sqrt[n]{n+2})^2 + (\sqrt[n]{n+2})}$$

$$\left(1 + \frac{1}{n}\right)^{n+1} < \left(1 + \frac{1}{n}\right)^n, \quad a = \psi\left(\frac{1}{2}\right) = \left[\psi\left(\frac{1}{2}\right)\right]^2$$

$$\int_0^1 \pi f^2(x) dx = \int_0^1 \pi \left(\frac{r}{h} x\right)^2 dx = \int_0^1 \frac{\pi r^2}{h^2} x^2 dx = \int_0^1 \frac{\pi r^2}{h^2} x^2 dx \left[u_1(x) + u_2(x) + \dots + u_n(x) \right] dx$$

$$\lim_{x \rightarrow \infty} x^3 \left[\frac{1}{3} + \frac{30}{x^2} + \frac{5}{x^3} + \frac{1}{x^4} \right] = P_n(z_0) = \sum_{k=0}^n a_k z_0^k = 0, \quad \lim_{x \rightarrow \infty} f(x) = \frac{1}{x}$$

$$q_j \int f_j(x) dx + C, \quad (a+x)^n = \sum_{k=0}^n C_n^k a^{n-k} x^k, \quad \int \left(\sum_{j=1}^n A_j f_j(x) \right) dx = \sum_{j=1}^n A_j \int f_j(x) dx$$

$$z^{n-2} + a^2 z^{n-3} + \dots + a^{n-1}, \quad I_1 = \int \frac{1}{x} dx, \quad z^n - a^n = (z-a)(z^{n-1} + a z^{n-2} + \dots + a^{n-1})$$

$$a_0 + a_1 z + \dots + a_n z^n = \sum_{k=0}^n a_k z^k, \quad P_n(z) = a_0 + a_1 z, \quad P_n(z)$$

$$a(x+h) - \log_a x = a = \psi\left(\frac{1}{2}\right), \quad (\log_a x)' = \lim_{h \rightarrow 0} \frac{\log_a(x+h) - \log_a x}{h}$$

$$\lim_{h \rightarrow 0} \log_a \left(\frac{x+h}{x} \right)^{1/h} = \lim_{h \rightarrow 0} \log_a \frac{x}{x} \left(1 + \frac{h}{x} \right)^{1/h} = \lim_{h \rightarrow 0} \frac{1}{x} \log_a \left(1 + \frac{h}{x} \right)$$

$$P_n(z_0) = \sum_{k=0}^n a_k z_0^k = 0, \quad I = \int \frac{1}{x} dx, \quad \frac{1}{x} = \frac{1}{x}$$

Mes prisiliečiame prie
pačių giliausių
Visatos paslapčių ir
dėsningumų,
iki kurių jokia
šiuolaikinė technika
prasiskverbti
nesugeba



Gedas



Integrālas

kut α	0π 0°	$\frac{\pi}{6}$ 30°	$\frac{\pi}{4}$ 45°	$\frac{\pi}{3}$ 60°	$\frac{\pi}{2}$ 90°	$\frac{2\pi}{3}$ 120°	$\frac{5\pi}{6}$ 150°	π 180°	$\frac{7\pi}{6}$ 210°	$\frac{4\pi}{3}$ 240°	$\frac{3\pi}{2}$ 270°	$\frac{5\pi}{3}$ 300°	$\frac{7\pi}{4}$ 315°	$\frac{11\pi}{6}$ 330°	2π 360°
$\sin \alpha$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1	$\frac{\sqrt{3}}{2}$	$\frac{1}{2}$	0	$-\frac{1}{2}$	$-\frac{\sqrt{3}}{2}$	-1	$-\frac{\sqrt{3}}{2}$	$-\frac{1}{2}$	0	1
$\cos \alpha$	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0	$-\frac{1}{2}$	$-\frac{\sqrt{2}}{2}$	-1	$-\frac{\sqrt{3}}{2}$	$-\frac{1}{2}$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
$\operatorname{tg} \alpha$	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	$\pm\infty$	$-\sqrt{3}$	-1	0	$-\frac{\sqrt{3}}{3}$	$-\frac{1}{2}$	0	$\frac{1}{2}$	1	$\sqrt{3}$	$\pm\infty$
$\operatorname{ctg} \alpha$	$\pm\infty$	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$	0	$-\frac{\sqrt{3}}{3}$	-1	$-\sqrt{3}$	$\pm\infty$	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	$\pm\infty$
	-2π -360°	$-\frac{11\pi}{6}$ -330°	$-\frac{7\pi}{4}$ -315°	$-\frac{5\pi}{3}$ -300°	$-\frac{3\pi}{2}$ -270°	$-\frac{4\pi}{3}$ -240°	$-\frac{5\pi}{6}$ -225°	$-\frac{7\pi}{6}$ -210°	$-\pi$ -180°	$-\frac{5\pi}{6}$ -150°	$-\frac{3\pi}{4}$ -135°	$-\frac{2\pi}{3}$ -120°	$-\frac{\pi}{2}$ -90°	$-\frac{\pi}{3}$ -60°	0π 0°

$$\int f(x) dx \quad \left(\sum_{j=1}^n a_j u_j(x) \right)' = \sum_{j=1}^n a_j u_j'(x) \quad c = \lim_{x \rightarrow a} f(x), \quad d = \lim_{x \rightarrow b} f(x)$$

$$\Delta F = F(x_0 + \Delta x_0) - F(x_0) \quad I_1 = \int_{x_0}^{x_1} \frac{1}{x} dx \quad \{x_n \pm y_n\} = \{x_n, \pm y_n\}$$

$$\lim_{n \rightarrow \infty} \frac{(\sqrt[n]{n+2})^3 - (\sqrt[n]{n})^3}{(\sqrt[n]{n+2})^2 + (\sqrt[n]{n+2})} = \lim_{n \rightarrow \infty} \frac{(\sqrt[n]{n+2})^3 - (\sqrt[n]{n})^3}{(\sqrt[n]{n+2})^2 + (\sqrt[n]{n+2})} \quad \lim_{n \rightarrow \infty} (\sqrt[n]{n+2} - \sqrt[n]{n})$$

$$\left(1 + \frac{1}{n}\right)^{n+1} < \left(1 + \frac{1}{n}\right)^n \quad a = \psi\left(\frac{1}{2}\right) = \left[\psi\left(\frac{1}{4}\right)\right]^2$$

$$\int \pi f^2(x) dx = \int \pi \left(\frac{r}{h} x\right)^2 dx = \int \frac{\pi r^2}{h^2} x^2 dx \int [u_1(x) + u_2(x) + \dots + u_n(x)] dx = \sum_{j=1}^n \int u_j(x) dx$$

$$\lim_{x \rightarrow \infty} x^3 \left[\frac{1}{3} + \frac{3}{x^3} + \frac{5}{x^5} + \frac{1}{x^7} \right] = P_n(z_0) = \sum_{k=0}^n a_k z_0^k = 0 \quad \lim_{x \rightarrow \infty} f(x) = \frac{1}{x}$$

$$q_j \int f_j(x) dx + C \quad (a+x)^n = \sum_{k=0}^n C_n^k a^{n-k} x^k \int \left(\sum_{j=1}^n A_j f_j(x) \right) dx = \sum_{j=1}^n A_j \int f_j(x) dx$$

$$z^{n-2} + a^2 z^{n-3} + \dots + a^{n-1} \quad I_1 = \int \frac{1}{x} dx \quad z^n - a^n = (z-a)(z^{n-1} + a z^{n-2} + \dots + a^{n-1})$$

$$= a_0 + a_1 z + \dots + a_n z^n = \sum_{k=0}^n a_k z^k \quad (a \neq 0) \quad P_n(z) = a_0 + a_1 z \quad P_n(z)$$

$$\frac{a(x+h) - \log_a x}{a} = \frac{a}{a} = 1 \quad a = \psi\left(\frac{1}{2}\right) \quad (\log_a x)' = \lim_{h \rightarrow 0} \frac{\log_a(x+h) - \log_a x}{h}$$

$$\lim_{h \rightarrow 0} \log_a \left(\frac{x+h}{x} \right)^{1/h} = \lim_{h \rightarrow 0} \log_a \frac{x}{x} \left(1 + \frac{h}{x} \right)^{1/h} = \lim_{h \rightarrow 0} \frac{1}{x} \log_a \left(1 + \frac{h}{x} \right)$$

$$\lim_{x \rightarrow \infty} \frac{1}{x} \log_a \left(1 + \frac{h}{x} \right) = \lim_{x \rightarrow \infty} \frac{1}{x} \log_a \left(1 + \frac{h}{x} \right) = \lim_{x \rightarrow \infty} \frac{1}{x} \log_a \left(1 + \frac{h}{x} \right)$$

$$P_n(z_0) = \sum_{k=0}^n a_k z_0^k = 0 \quad I = \int \frac{1}{x} dx = \ln|x| + C$$

$$\int f(x) dx \quad \left(\sum_{j=1}^n a_j u_j(x) \right)' = \sum_{j=1}^n a_j u_j'(x) \quad c = \lim_{x \rightarrow a} f(x), \quad d = \lim_{x \rightarrow b} f(x)$$

$$\Delta F = F(x_0 + \Delta x_0) - F(x_0) \quad I_1 = \int_{x_0}^{x_1} \frac{1}{x} dx \quad \{x_n \pm y_n\} = \{x_n, \pm y_n\}$$

$$\lim_{n \rightarrow \infty} \frac{(\sqrt[n]{n+2})^3 - (\sqrt[n]{n})^3}{(\sqrt[n]{n+2})^2 + (\sqrt[n]{n+2})} = \lim_{n \rightarrow \infty} \frac{(\sqrt[n]{n+2})^3 - (\sqrt[n]{n})^3}{(\sqrt[n]{n+2})^2 + (\sqrt[n]{n+2})} \quad \lim_{n \rightarrow \infty} (\sqrt[n]{n+2} - \sqrt[n]{n})$$

$$\left(1 + \frac{1}{n}\right)^{n+1} < \left(1 + \frac{1}{n}\right)^n \quad a = \psi\left(\frac{1}{2}\right) = \left[\psi\left(\frac{1}{4}\right)\right]^2$$

$$\int \pi f^2(x) dx = \int \pi \left(\frac{r}{h} x\right)^2 dx = \int \frac{\pi r^2}{h^2} x^2 dx \int [u_1(x) + u_2(x) + \dots + u_n(x)] dx = \sum_{j=1}^n \int u_j(x) dx$$

$$\lim_{x \rightarrow \infty} x^3 \left[\frac{1}{3} + \frac{3}{x^3} + \frac{5}{x^5} + \frac{1}{x^7} \right] = P_n(z_0) = \sum_{k=0}^n a_k z_0^k = 0 \quad \lim_{x \rightarrow \infty} f(x) = \frac{1}{x}$$

$$q_j \int f_j(x) dx + C \quad (a+x)^n = \sum_{k=0}^n C_n^k a^{n-k} x^k \int \left(\sum_{j=1}^n A_j f_j(x) \right) dx = \sum_{j=1}^n A_j \int f_j(x) dx$$

$$z^{n-2} + a^2 z^{n-3} + \dots + a^{n-1} \quad I_1 = \int \frac{1}{x} dx \quad z^n - a^n = (z-a)(z^{n-1} + a z^{n-2} + \dots + a^{n-1})$$

$$= a_0 + a_1 z + \dots + a_n z^n = \sum_{k=0}^n a_k z^k \quad (a \neq 0) \quad P_n(z) = a_0 + a_1 z \quad P_n(z)$$

$$\frac{a(x+h) - \log_a x}{a} = \frac{a}{a} = 1 \quad a = \psi\left(\frac{1}{2}\right) \quad (\log_a x)' = \lim_{h \rightarrow 0} \frac{\log_a(x+h) - \log_a x}{h}$$

$$\lim_{h \rightarrow 0} \log_a \left(\frac{x+h}{x} \right)^{1/h} = \lim_{h \rightarrow 0} \log_a \frac{x}{x} \left(1 + \frac{h}{x} \right)^{1/h} = \lim_{h \rightarrow 0} \frac{1}{x} \log_a \left(1 + \frac{h}{x} \right)$$

$$\lim_{x \rightarrow \infty} \frac{1}{x} \log_a \left(1 + \frac{h}{x} \right) = \lim_{x \rightarrow \infty} \frac{1}{x} \log_a \left(1 + \frac{h}{x} \right) = \lim_{x \rightarrow \infty} \frac{1}{x} \log_a \left(1 + \frac{h}{x} \right)$$

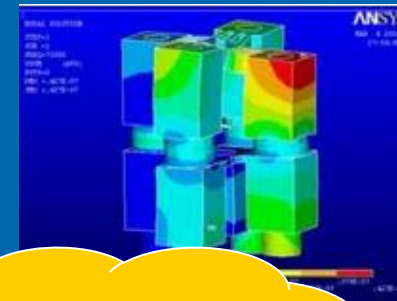
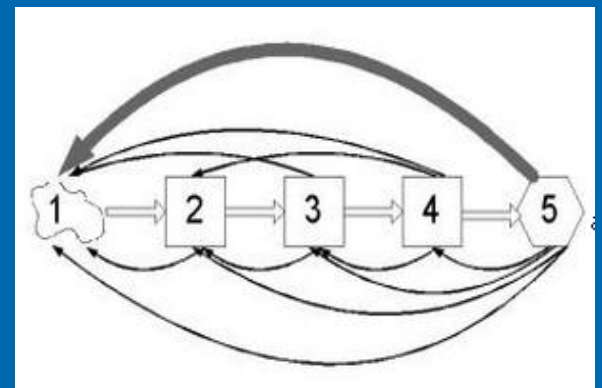
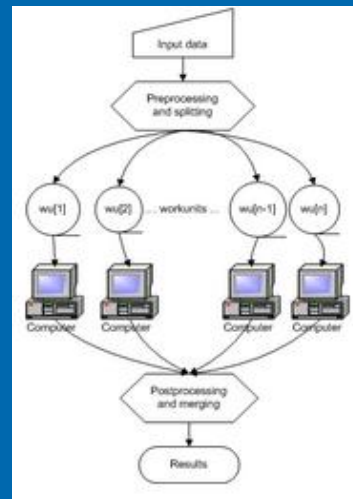
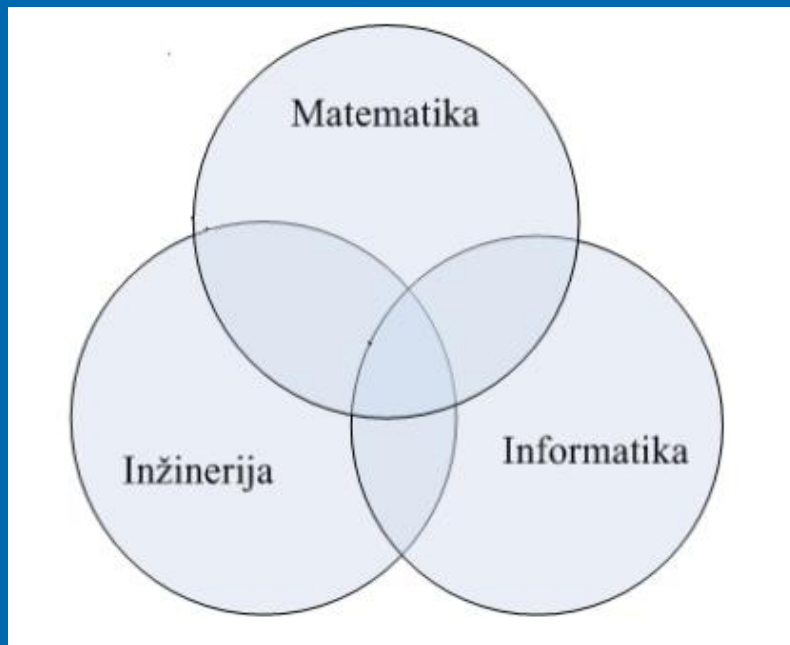
$$P_n(z_0) = \sum_{k=0}^n a_k z_0^k = 0 \quad I = \int \frac{1}{x} dx = \ln|x| + C$$

kut α	0π 0°	$\frac{\pi}{6}$ 30°	$\frac{\pi}{4}$ 45°	$\frac{\pi}{3}$ 60°	$\frac{\pi}{2}$ 90°	$\frac{2\pi}{3}$ 120°	$\frac{3\pi}{4}$ 135°	$\frac{5\pi}{6}$ 150°	π 180°	$\frac{7\pi}{6}$ 210°	$\frac{5\pi}{4}$ 225°	$\frac{4\pi}{3}$ 240°	$\frac{3\pi}{2}$ 270°	$\frac{5\pi}{3}$ 300°	$\frac{7\pi}{4}$ 315°	$\frac{11\pi}{6}$ 330°	2π 360°
$\sin \alpha$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
$\cos \alpha$	1	$\frac{\sqrt{3}}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{1}{2}$	0	$-\frac{1}{2}$	$-\frac{\sqrt{2}}{2}$	$-\frac{\sqrt{3}}{2}$	0	$-\frac{1}{2}$	$-\frac{\sqrt{2}}{2}$	$-\frac{\sqrt{3}}{2}$	0	$\frac{1}{2}$	$\frac{\sqrt{2}}{2}$	$\frac{\sqrt{3}}{2}$	1
$\operatorname{tg} \alpha$	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	$\pm \infty$	$-\sqrt{3}$	-1	$-\frac{\sqrt{3}}{3}$	0	$\frac{\sqrt{3}}{3}$	1	$\sqrt{3}$	$\pm \infty$	$-\sqrt{3}$	-1	$-\frac{\sqrt{3}}{3}$	0
$\operatorname{ctg} \alpha$	$\pm \infty$	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$	0	$-\frac{\sqrt{3}}{3}$	-1	$-\sqrt{3}$	$\pm \infty$	$\sqrt{3}$	1	$\frac{\sqrt{3}}{3}$	0	$-\frac{\sqrt{3}}{3}$	-1	$-\sqrt{3}$	$\pm \infty$
	-2π -360°	$-\frac{11\pi}{6}$ -330°	$-\frac{7\pi}{4}$ -315°	$-\frac{5\pi}{3}$ -300°	$-\frac{3\pi}{2}$ -270°	$-\frac{4\pi}{3}$ -240°	$-\frac{5\pi}{4}$ -225°	$-\frac{7\pi}{6}$ -210°	$-\pi$ -180°	$-\frac{5\pi}{6}$ -150°	$-\frac{3\pi}{4}$ -135°	$-\frac{2\pi}{3}$ -120°	$-\frac{\pi}{2}$ -90°	$-\frac{\pi}{3}$ -60°	$-\frac{\pi}{4}$ -45°	$-\frac{\pi}{6}$ -30°	0π 0°

**Pažiūrėsiu, ar čia
dar kas nors yra...**



Gedas



**Girdėjai, kad Varžtas
projektuoja rutulio
formos pastatą ?**



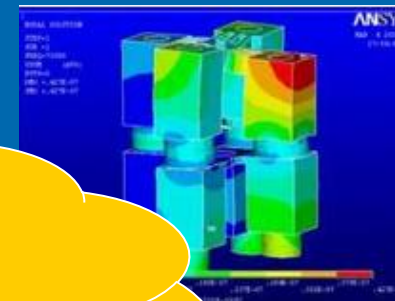
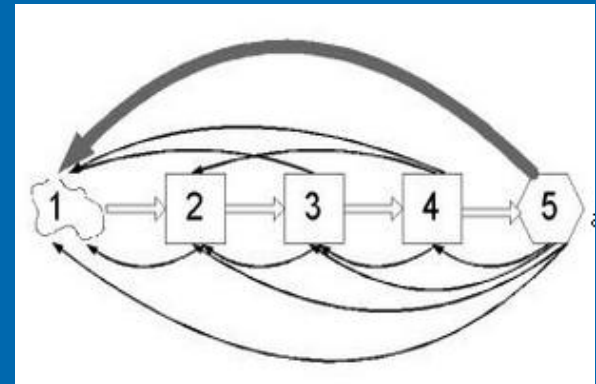
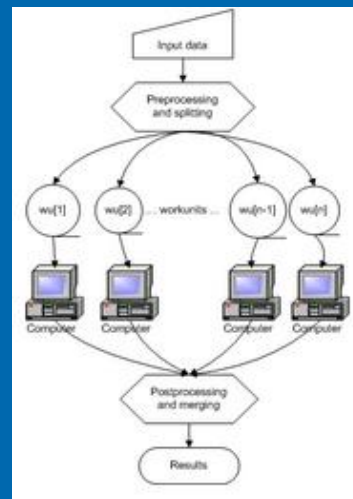
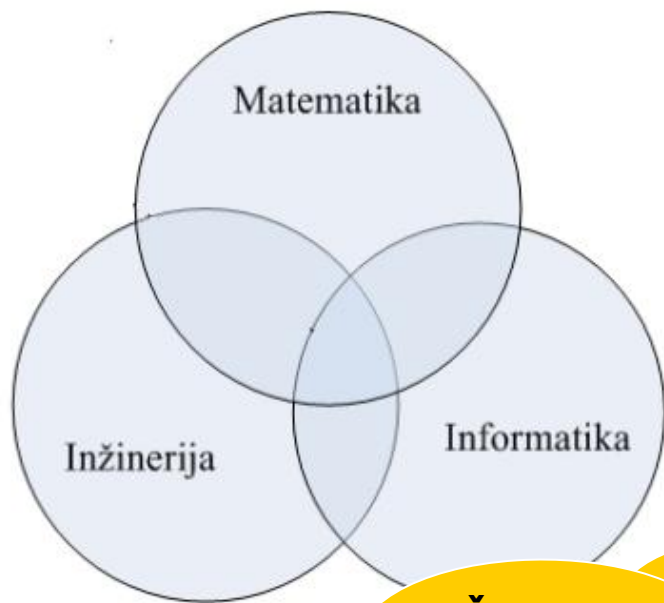
Gedas



Technas



Matas



**Žinau. Jis, beje, prašė manęs,
pagelbėti spręsti gana
sudėtingą lygtį atsirandančią
vykdant tuos statybinius
skaičiavimus.**



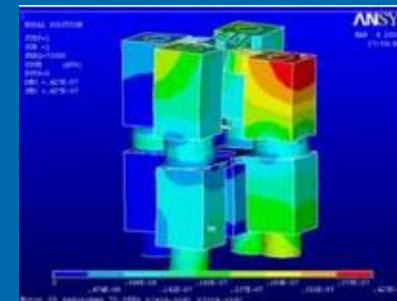
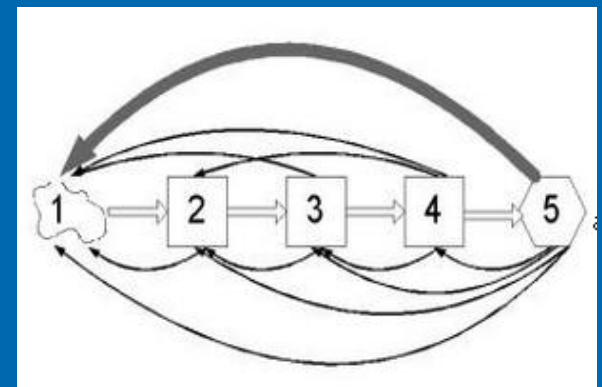
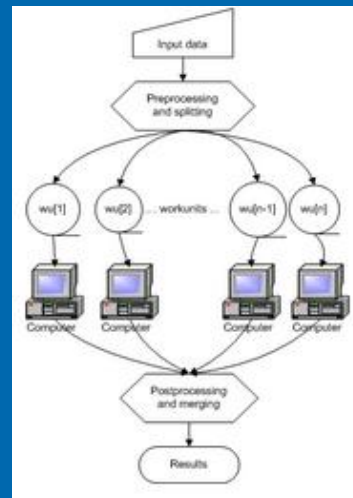
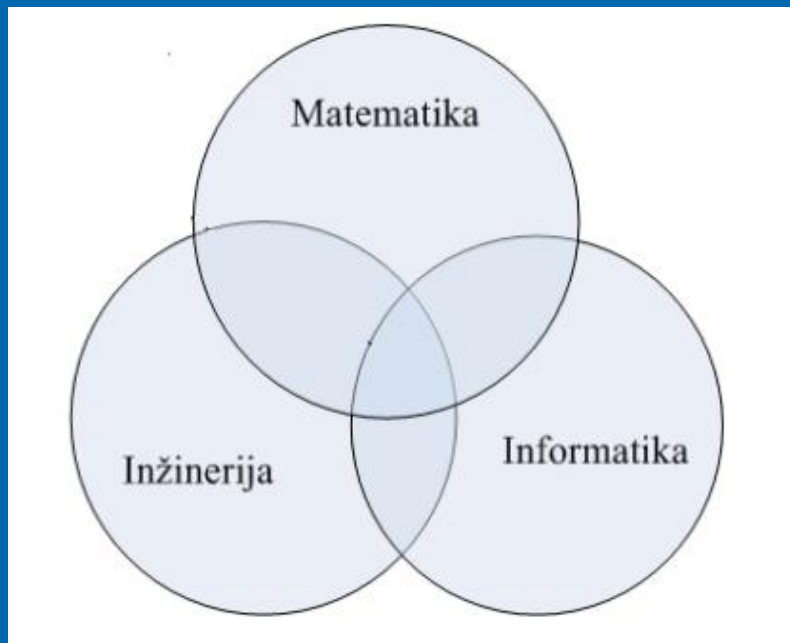
Gedas



Technas



Matas



Jie inžinieriai?



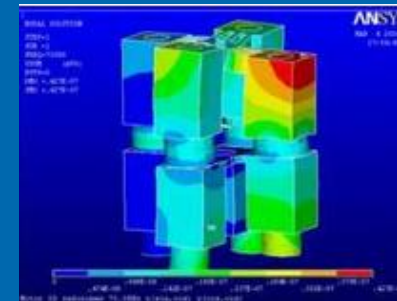
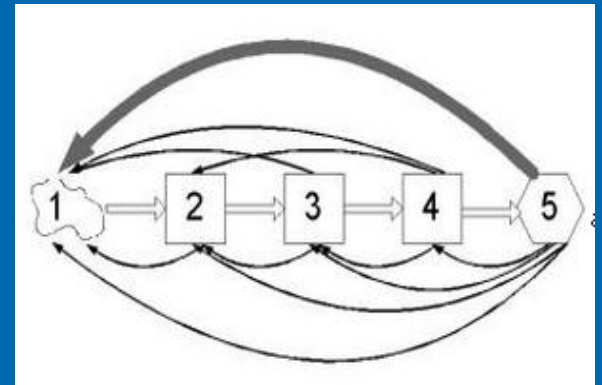
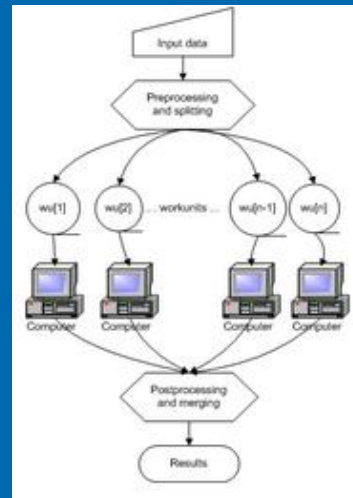
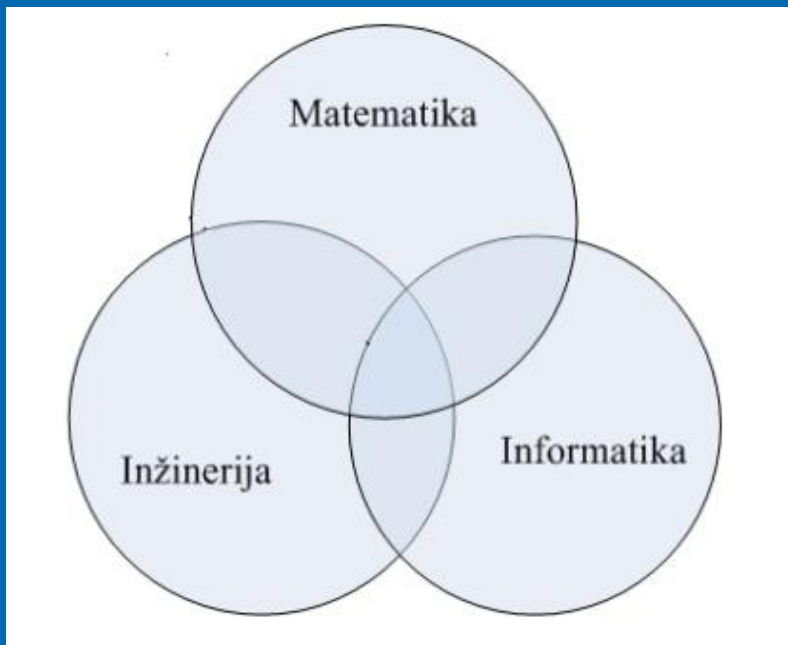
Gedas



Technas



Matas



Na ir kaip sekasi ?



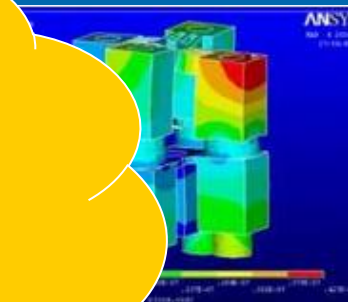
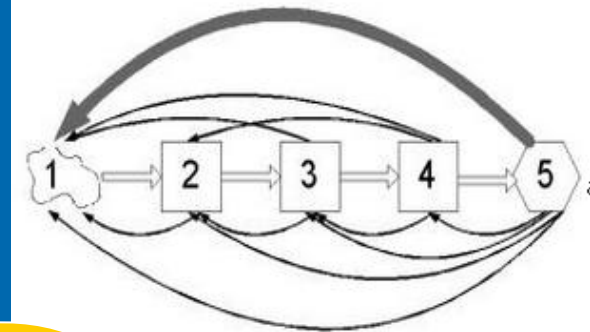
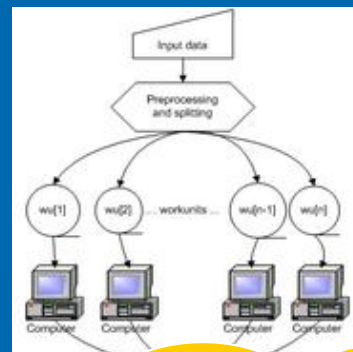
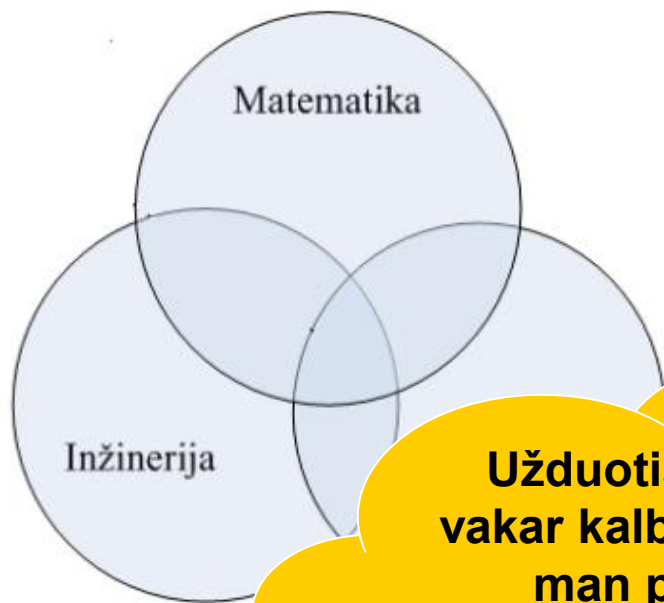
Gedas



Technas



Matas



Užduotis nestandartinė, bet vakar kalbėjau su Integralu jis man paaiškino Rymano hipotezės įrodymą. Iš jos pasirodo išnyra daug įdomių išvadų, kurias galima būtų pritaikyti Varžto uždaviniui.



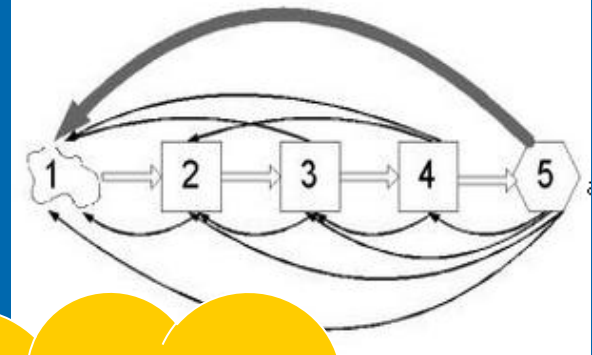
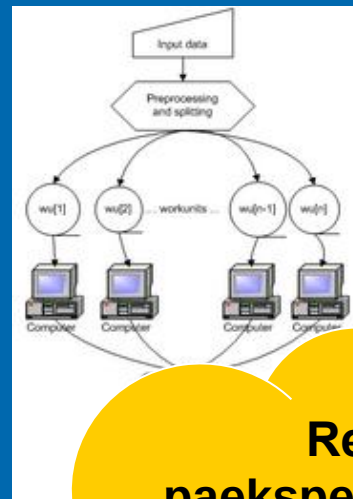
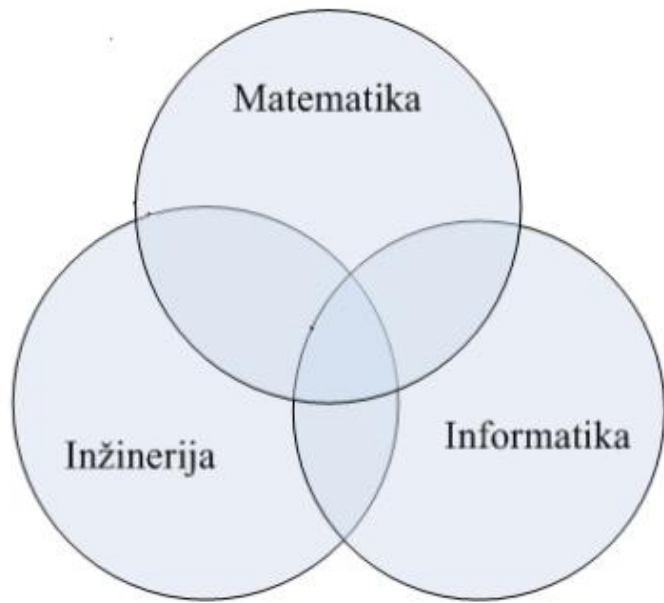
Gedas



Technas



Matas



**Reikės
paeksperimentuoti,
parašyti programą ir
su Baitu ją išbandyti
superkompiuteriuose.
Pažiūrėsime ką
parodys rezultatai.**



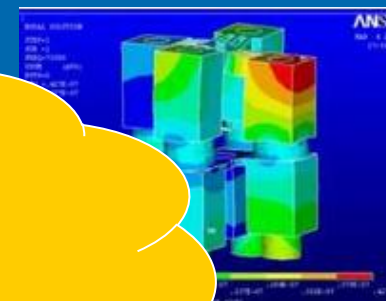
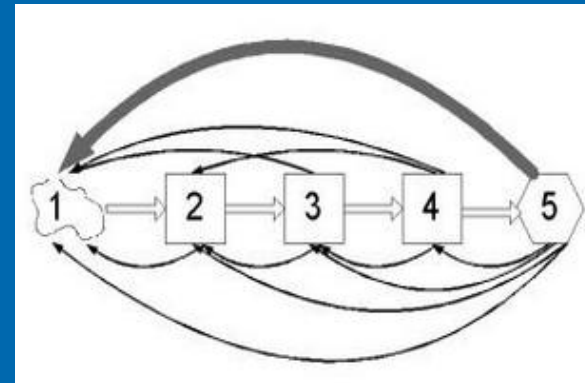
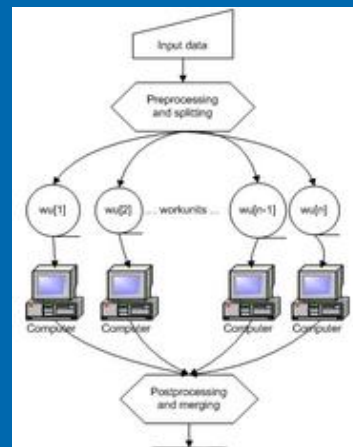
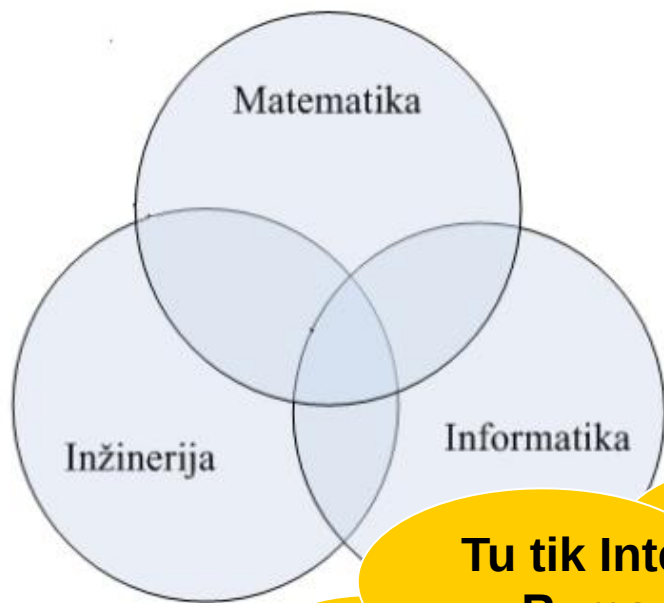
Gedas



Technas



Matas



**Tu tik Integralui nesakyk , kad
Rymano hipotezę taikysi
žemiškiems reikalams, o tai
daugiau jis mums nieko
nepasakos.**



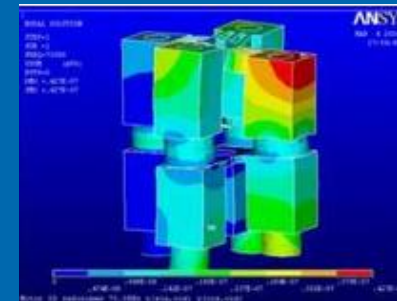
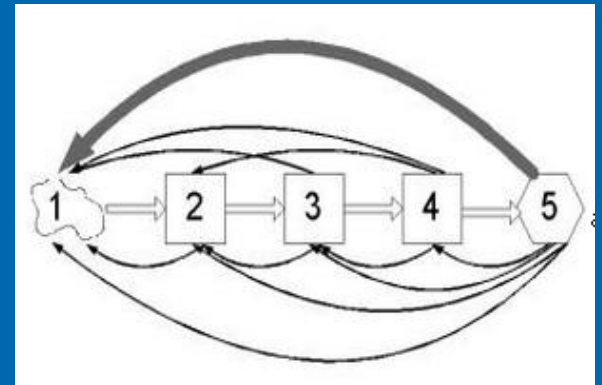
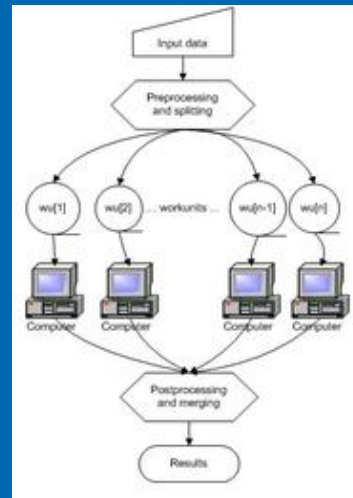
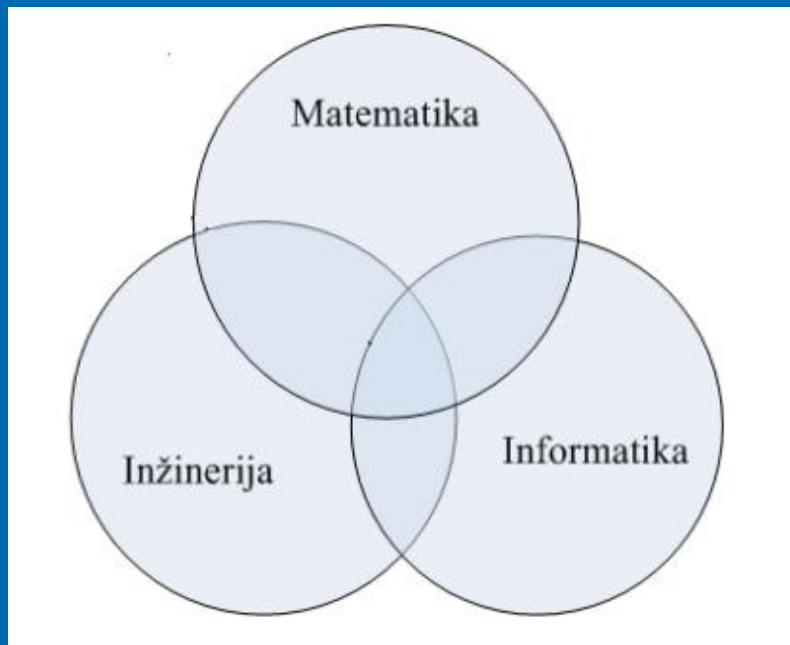
Gedas



Technas



Matas



Kas jie?



Gedas



Technas



Matas

