Popuniti odmah!

IME I PREZIME: BERNARDO KOTLAR BROJ INDEKSA: 77-2-0075-2070

DATUM: 10.2.2017. VRIJEME: OD 12:20 DO ~~14:00~~ 13:45

MATEMATIKA 1: Trajanje 100 minuta. Zabranjen je razgovor sa drugim studentima. ZADATKE RIJEŠAVATE JEDNOSTRANO NA PAPIRE KOJE DOBIJETE OD NASTAVNIKA. oxoo

Broj ↓ bodova

1. Koju relaciju zadovoljava inverz matrice? Provjeriti tu relaciju za inverz matrice (ako postoji)

$$A = \begin{bmatrix} 0 & 1 & 0 & 2 \\ 1 & 0 & 2 & 0 \\ 0 & 2 & 0 & 1 \\ 2 & 0 & 1 & 0 \end{bmatrix}$$

0

2. Među kompleksnim brojevima odrediti $\sqrt[4]{\frac{3+2i}{2-3i}}$.

0

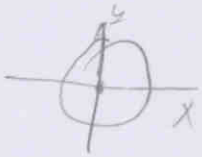
3. Zadana je funkcija $f(x) = e^x$ i funkcija $g(x) = \frac{-1}{x^2}$. Odrediti domenu i sve asimptote funkcije $h(x) = f(g(x))$.

4. Ispitati domenu i drugu derivaciju funkcije $S(x) = \ln\left(\frac{x+1}{x-1}\right)$.

13

5. Na temelju ispitivanja toka napraviti skicu grafa funkcije $S(x)$ iz zadatka 4.

UKUPNO (13)



2. $\sqrt[4]{\frac{3+2i}{2-3i}}$ ~~$\frac{3}{2} + \frac{2}{3}i$~~

$r = \sqrt{x^2+y^2}$

$= \sqrt{\left(\frac{3}{2}\right)^2 + \left(\frac{2}{3}\right)^2}$

$= \sqrt{\frac{9}{4} + \frac{4}{9}}$

$= \sqrt{\frac{81+16}{36}} = \sqrt{\frac{97}{36}} = \frac{\sqrt{97}}{6}$

$\sqrt[4]{\frac{3+2i}{2-3i} \cdot \frac{2+3i}{2+3i}}$

$\sqrt[4]{\frac{6+9i+4i-6}{4+9}}$

$\sqrt[4]{\frac{13i}{13}}$

$r = \sqrt{(1)^2 + \left(\frac{13}{13}\right)^2}$

$r = \frac{13}{13} = 1$ ✓

$\operatorname{tg}\varphi = \frac{0}{13} = 1$

$\varphi = 90°$ $\varphi = \frac{\pi}{2}$ ✓

$k = 0$

$z_1 = \sqrt[4]{1} \cdot \left(\cos\frac{\frac{\pi}{2} + 2k\pi}{4} + i\sin\frac{\frac{\pi}{2} + 2k\pi}{4}\right)$ ✗

$z_1 = \sqrt[4]{1} \cdot (\cos 0 + i\sin 0)$ ✗

$z_1 = 1 \cdot (1+0)$

$z_1 = 1$

$\operatorname{Re}_1 = 1 \quad \operatorname{Im}_1 = 0$

$z_1 = 1\left(\cos\frac{\frac{\pi}{2}}{4} + i\sin\frac{\frac{\pi}{2}}{4}\right)$

$= \cos\frac{\pi}{8} + i\sin\frac{\pi}{8}$

$= \ldots$

$z_2 = 1\left(\cos\frac{\frac{\pi}{2}+2\pi}{4} + i\sin\frac{\frac{\pi}{2}+2\pi}{4}\right)$

$= \cos\frac{5\pi}{8} + i\sin\frac{5\pi}{8}$

$= \ldots$ ITD.

IME I PREZIME: BERNARDO KOTLAR BROJ INDEKSA:

$k=1$

$z_2 = 1 \cdot \left(\cos \frac{\frac{\pi}{2} \cdot 2k\pi}{4} + i \sin \frac{\frac{\pi}{2} \cdot 2k\pi}{4}\right)$

$z_2 = 1 \cdot \left(\cos \frac{\pi}{4} + i \sin \frac{\pi}{4}\right)$ ✗

$z_2 = 1 \cdot$

$\mathrm{Re}_2 = 0.7$

$\mathrm{Im}_2 = -0.7$

$k=2$

$z_3 = 1 \cdot \left(\cos \frac{\frac{\pi}{2} \cdot 4\pi}{4} + i \sin \frac{\frac{\pi}{2} \cdot 4\pi}{4}\right)$ ✗

$= 1 \cdot \left(\cos \frac{\pi}{2} + i \sin \frac{\pi}{2}\right)$

$\mathrm{Re} = 0$

$\mathrm{Im} = 1$ ⊘

$k=3$

$z_4 = 1 \cdot \left(\cos \frac{\frac{\pi}{2} \cdot 6\pi}{4} + i \sin \frac{\frac{\pi}{2} \cdot 6\pi}{4}\right)$ ✗

$z_4 = 1 \cdot \left(\cos \frac{3\pi}{4} + i \sin \frac{3\pi}{4}\right)$

$\mathrm{Re}_2 = -0.7$

$\mathrm{Im}_2 = 0.7$

IME I PREZIME: BERNARDO KOTCAR BROJ INDEKSA:

4. $f(x) = \ln\left(\frac{x+7}{x-7}\right)$

$f'(x) = \frac{1}{\frac{x+7}{x-7}} \cdot \left(\frac{(x+7)' \cdot (x-7) - (x+7) \cdot (x-7)'}{(x-7)^2}\right)$

$f'(x) = \frac{x-7}{x+7} \cdot \frac{x-7-x+7}{(x-7)^2}$

$f'(x) = \frac{x-7}{x+7} \cdot \frac{-2}{(x-7)^2}$ ✓

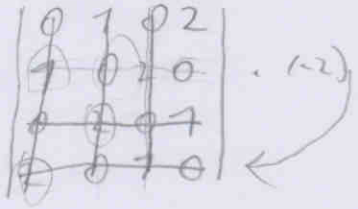
$f''(x) = \frac{(x-7)' \cdot (x+7) - (x-7) \cdot (x+7)'}{(x+7)^2} \cdot \frac{-2}{(x-7)^2} + \frac{x-7}{x+7} \cdot \frac{(-2)' \cdot (x-7)^2 - (-2) \cdot 2(x-7) \cdot (x-7)'}{(x-7)^5}$

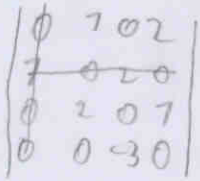
$= \frac{x+7-x+7}{(x+7)^2} \cdot \frac{-2}{(x-7)^2} + \frac{x-7}{x+7} \cdot \frac{4 \cdot x-7}{(x-7)^4}$

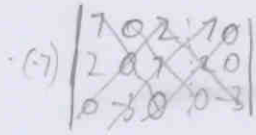
$= \frac{2}{(x+7)^2} \cdot \frac{-2}{(x-7)^2} + \frac{x-7}{x+7} \cdot \frac{4}{(x-7)^3}$ ✓ 13

DOMENA ?

IME I PREZIME: BERNARDO KOTCAR BROJ INDEKSA:





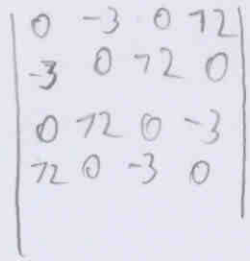


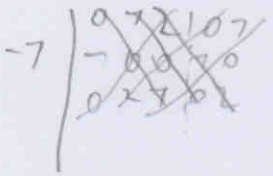
$-1 \cdot (0+0-72) - (0-3+0)$

$-1 \cdot (-72+3) = 9$

$\det A = 9$

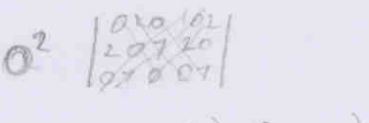
por





$-1 \cdot (0+0+4) - (7+0+0)$

$-7 \cdot (3) = -3$

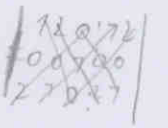


$0 - (0+0+0) - (0+0+0)$

0

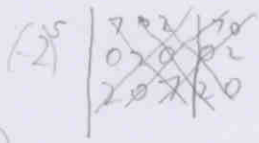
$0 \cdot (0+0+0) - (0+0+0)$

$= 0$



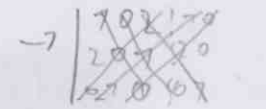
$-7(0+4+0) - (0+1+0)$

$-7 \cdot (+3) = -3$



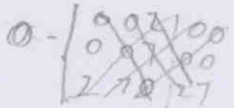
$32 \cdot (2+0+0) - (0+0+8)$

$-2 \cdot (-6) = 72$

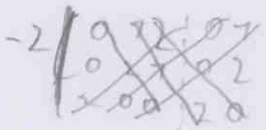


$-7 \cdot (0+0+4) - (0+7+0)$

$-7 \cdot (3) = -3$

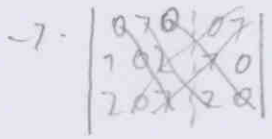


$0 - (0+0+0) - (0+0+0)$



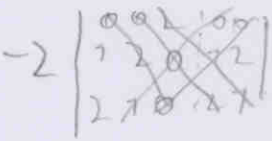
$-2 \cdot (0+2+0) - (0+0+8)$

$-2 \cdot (-6) = 72$



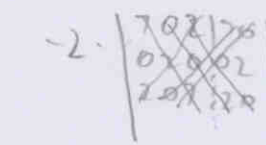
$-7 \cdot (0+4+0) - (7+0+0)$

$= -3$



$-2 \cdot (0+0+2) - (0+0+8)$

$-2 \cdot (-6) = 72$



$-2 \cdot (2+0+0) - (0+0+8)$

$= 72$

IME I PREZIME: BERNARDO KOTZAR

BROJ INDEKSA:

$$A^{-1} = \frac{1}{\det A} \cdot \begin{vmatrix} 0 & -3 & 0 & 72 \\ -3 & 0 & 72 & 0 \\ 0 & 72 & 0 & -3 \\ 72 & 0 & -3 & 0 \end{vmatrix}$$

$$A^{-1} = \begin{vmatrix} 0 & \frac{-3}{9} & 0 & \frac{72}{9} \\ \frac{-3}{9} & 0 & \frac{72}{9} & 0 \\ 0 & \frac{72}{9} & 0 & \frac{-3}{9} \\ \frac{72}{9} & 0 & \frac{-3}{9} & 0 \end{vmatrix} \times \left| \begin{bmatrix} 0 & -\frac{1}{3} & 0 & \frac{4}{3} \\ -\frac{1}{3} & 0 & \frac{4}{3} & 0 \\ 0 & \frac{4}{3} & 0 & -\frac{1}{3} \\ \frac{4}{3} & 0 & -\frac{1}{3} & 0 \end{bmatrix} \right| \times$$

$$A^{-1} \cdot A = \begin{vmatrix} ? \end{vmatrix}$$

PROVJERA: VIDI KEREŠ

Popuniti odmah!
IME I PREZIME: Filip Penjalov **BROJ INDEKSA:** 57144 (13)
DATUM: VRIJEME: OD 14:00 DO 14:50
MATEMATIKA 1: Trajanje 100 minuta. Zabranjen je razgovor sa drugim studentima. ZADATKE RIJEŠAVATE JEDNOSTRANO NA PAPIRE KOJE DOBIJETE OD NASTAVNIKA. oxoo

Broj ↓ bodova

1. Koju relaciju zadovoljava inverz matrice? Provjeriti tu relaciju za inverz matrice (ako postoji)

$$A = \begin{bmatrix} 0 & 1 & 0 & 2 \\ 1 & 0 & 2 & 0 \\ 0 & 2 & 0 & 1 \\ 2 & 0 & 1 & 0 \end{bmatrix}$$

Ø

2. Među kompleksnim brojevima odrediti $\sqrt[4]{\frac{3+2i}{2-3i}}$.

3. Zadana je funkcija $f(x) = e^x$ i funkcija $g(x) = \frac{-1}{x^2}$. Odrediti domenu i sve asimptote funkcije $h(x) = f(g(x))$.

Ø

4. Ispitati domenu i drugu derivaciju funkcije $S(x) = \ln\left(\frac{x+1}{x-1}\right)$.

13

5. Na temelju ispitivanja toka napraviti skicu grafa funkcije $S(x)$ iz zadatka 4.

$S(x) = \ln\left(\frac{x+1}{x-1}\right)$

$S'(x) = \frac{1}{\frac{x+1}{x-1}} \cdot \frac{1(x-1) - (x+1)1}{(x-1)^2}$

$Df \in \langle 0, +\infty \rangle$ X

VIDI MARKO ČULINA

$S'(x) \frac{(x-1)}{x+1} \frac{(x-1)-(x+1)}{(x-1)^2}$

$(x+1)(x-1) = x^2 - 1^2$

$x - 1 - x - 1 = -2$

$S'(x) = \frac{(x-1)-(x+1)}{x^2-1} =$

$S'(x) = \frac{(x-1)\,1}{(x-1)(x+1)} - \frac{x+1}{(x-1)(x+1)}$

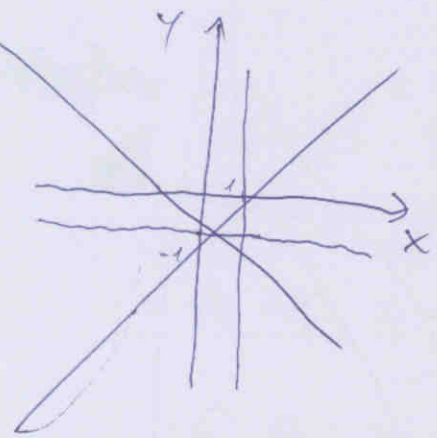
$S'(x) = \frac{1}{x+1} - \frac{1}{x-1}$ ili $\boxed{S' = -\frac{2}{x^2-1}}$ ✓ 13

$S' = -\frac{0\cdot(x^2-1) - 2\cdot 2x}{(x^2-1)^2} = -\frac{-4x}{(x^2+1)^2} = \boxed{\frac{4x}{(x^2-1)^2}}$ ili $\frac{4x}{x^4+2x+1} =$

$\frac{4x}{x^4 3} - \frac{2\cdot 4x}{2x} + 4x = \frac{4}{x^3} - 2 + 4x = 2\left(\frac{2}{x^3} - 1 + 2x\right)$

IME I PREZIME: Filip Penjalar BROJ INDEKSA: 57144

5.



2. $z = \frac{4\sqrt{3+2i}}{2-3i}$

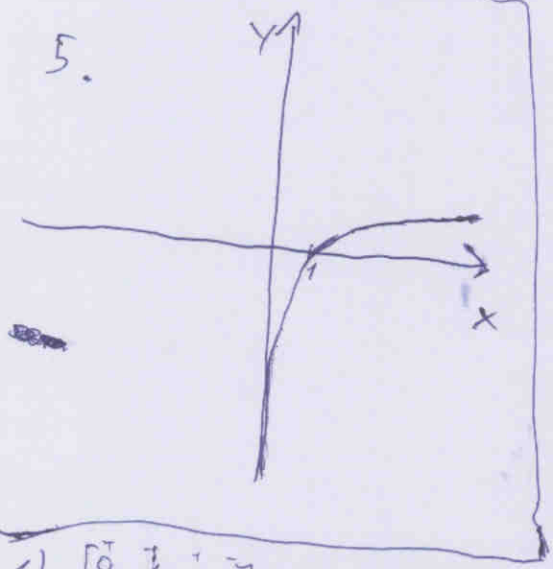
$|z| = \frac{4\sqrt{3+2i}}{|2-3i|}$

3. $f(x) = e^x \quad g(x) = -\frac{1}{x^2}$

$f(g(x))$

$f(g(x)) = e^{\frac{-1}{x^2}}$

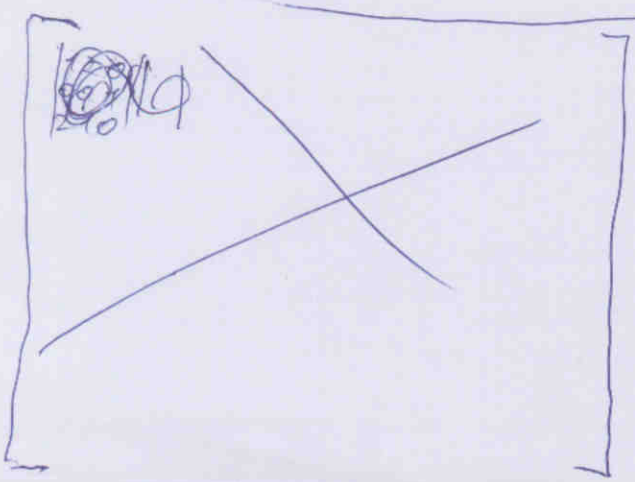
5.



1) $\begin{vmatrix} 0 & -1 & -1 & -2 \\ 1 & 0 & -2 & 0 \\ -1 & 2 & 0 & 1 \\ 2 & 0 & 1 & 0 \end{vmatrix} = -1 \begin{vmatrix} 1 & 2 & 0 \\ 0 & 0 & 1 \\ 2 & 1 & 0 \end{vmatrix} - 2 \begin{vmatrix} 1 & 0 & 2 \\ 0 & 2 & 0 \\ 2 & 0 & 1 \end{vmatrix} = -1\left(1 \cdot \begin{vmatrix} 0 & 1 \\ 1 & 0 \end{vmatrix} - 2 \begin{vmatrix} 0 & 1 \\ 2 & 0 \end{vmatrix}\right) - 2\left(1 \begin{vmatrix} 2 & 0 \\ 0 & 1 \end{vmatrix} + 2 \begin{vmatrix} 0 & 2 \\ 2 & 0 \end{vmatrix}\right)$

$= -1(-1 - 2(-2)) - 2(2 + 2(-4)) = -1(3) - 2(0)$

$= -3$



$\begin{vmatrix} 0 & -1 & -1 & -2 \\ 1 & 0 & -2 & 0 \\ -1 & 2 & 0 & 1 \\ 2 & 0 & 1 & 0 \end{vmatrix}$

$+ \begin{vmatrix} 0 & 2 & 0 \\ 0 & 0 & 1 \\ 2 & 1 & 0 \end{vmatrix} - \begin{vmatrix} 1 & 2 & 0 \\ 0 & 0 & 1 \\ 2 & 1 & 0 \end{vmatrix} + \begin{vmatrix} 1 & 0 & 0 \\ 0 & 2 & 1 \\ 2 & 0 & 0 \end{vmatrix} - \begin{vmatrix} 1 & 0 & 2 \\ 0 & 0 & 1 \\ 2 & 1 & 0 \end{vmatrix}$

$- \begin{vmatrix} 1 & 0 & 2 \\ 2 & 0 & 1 \\ 0 & 1 & 0 \end{vmatrix} + \begin{vmatrix} 0 & 0 & 2 \\ 0 & 0 & 1 \\ 2 & 1 & 0 \end{vmatrix} - \begin{vmatrix} 0 & 1 & 2 \\ 0 & 2 & 1 \\ 2 & 0 & 0 \end{vmatrix} + \begin{vmatrix} 0 & 1 & 0 \\ 0 & 2 & 0 \\ 2 & 0 & 1 \end{vmatrix}$

$+ \begin{vmatrix} 1 & 0 & 2 \\ 0 & 2 & 0 \\ 0 & 1 & 0 \end{vmatrix} + \begin{vmatrix} 0 & 1 & 0 \\ 2 & 0 & 0 \\ 1 & 0 & 2 \end{vmatrix} + \begin{vmatrix} 0 & 1 & 2 \\ 1 & 0 & 0 \\ 2 & 0 & 0 \end{vmatrix} - \begin{vmatrix} 0 & 1 & 0 \\ 1 & 0 & 2 \\ 2 & 0 & 1 \end{vmatrix}$

$- \begin{vmatrix} 1 & 0 & 2 \\ 0 & 2 & 0 \\ 2 & 0 & 1 \end{vmatrix} + \begin{vmatrix} 0 & 0 & 2 \\ 1 & 2 & 0 \\ 0 & 0 & 1 \end{vmatrix} - \begin{vmatrix} 0 & 1 & 2 \\ 1 & 0 & 0 \\ 0 & 2 & 1 \end{vmatrix} + \begin{vmatrix} 0 & 1 & 0 \\ 1 & 0 & 2 \\ 0 & 2 & 0 \end{vmatrix}$

Popuniti odmah!
IME I PREZIME: MARKO ČULINA
DATUM: VRIJEME: OD 11.30 DO 12:30 BROJ INDEKSA: IR-1-0008-2010

MATEMATIKA 1: Trajanje 100 minuta. Zabranjen je razgovor sa drugim studentima. ZADATKE RIJEŠAVATE JEDNOSTRANO NA PAPIRE KOJE DOBIJETE OD NASTAVNIKA.

oxoo
Broj ↓ bodova

1. Koju relaciju zadovoljava inverz matrice? Provjeriti tu relaciju za inverz matrice (ako postoji)

$$A = \begin{bmatrix} 0 & 1 & 0 & 2 \\ 1 & 0 & 2 & 0 \\ 0 & 2 & 0 & 1 \\ 2 & 0 & 1 & 0 \end{bmatrix}$$

0

2. Među kompleksnim brojevima odrediti $\sqrt[4]{\dfrac{3+2i}{2-3i}}$.

0

3. Zadana je funkcija $f(x) = \mathrm{e}^x$ i funkcija $g(x) = \dfrac{-1}{x^2}$. Odrediti domenu i sve asimptote funkcije $h(x) = f\left(g(x)\right)$.

4. Ispitati domenu i drugu derivaciju funkcije $S(x) = \ln\left(\dfrac{x+1}{x-1}\right)$.

0

5. Na temelju ispitivanja toka napraviti skicu grafa funkcije $S(x)$ iz zadatka 4.

0

UKUPNO

0

Ime i prezime: MARKO ČULINA Broj indeksa: 1A-1-0008-2010

1)

$$A=\left[\begin{array}{cccc|cccc} 0&1&0&2&1&0&0&0\\ 1&0&2&0&0&1&0&0\\ 0&2&0&1&0&0&1&0\\ 2&0&1&0&0&0&0&1 \end{array}\right] \sim \left[\begin{array}{cccc|cccc} 1&0&2&0&0&1&0&0\\ 0&1&0&2&1&0&0&0\\ 0&2&0&1&0&0&1&0\\ 2&0&1&0&0&0&0&1 \end{array}\right] \begin{matrix} \\ \\ \\ \\ \end{matrix}$$

$R4-2R1$

$$\left[\begin{array}{cccc|cccc} 1&0&2&0&0&1&0&0\\ 0&1&0&2&1&0&0&0\\ 0&2&0&1&0&0&1&0\\ 0&0&-1&0&0&-2&0&1 \end{array}\right] R3-2R2 \left[\begin{array}{cccc|cccc} 1&0&2&0&0&1&0&0\\ 0&1&0&2&1&0&0&0\\ 0&0&0&-1&-2&0&1&0\\ 0&0&-1&0&0&-2&0&1 \end{array}\right] \cdot(-1)$$

$$\left[\begin{array}{cccc|cccc} 1&0&2&0&0&1&0&0\\ 0&1&0&2&1&0&0&0\\ 0&0&-1&0&0&-2&0&1\\ 0&0&0&-1&-2&0&1&0 \end{array}\right] L1/R3 \left[\begin{array}{cccc|cccc} 1&0&2&0&0&1&0&0\\ 0&1&0&2&1&0&0&0\\ 0&0&1&0&0&2&0&-1\\ 0&0&0&-1&-2&0&1&0 \end{array}\right] R1-2R3$$

$$\left[\begin{array}{cccc|cccc} 1&0&0&0&0&-1&0&2\\ 0&1&0&2&1&0&0&0\\ 0&0&1&0&0&2&0&-1\\ 0&0&0&-1&-2&0&1&0 \end{array}\right] (-1)/R4 \left[\begin{array}{cccc|cccc} 1&0&0&0&0&-1&0&2\\ 0&1&0&2&1&0&0&0\\ 0&0&1&0&0&2&0&-1\\ 0&0&0&1&2&0&-1&0 \end{array}\right] R2-2R4$$

$$\left[\begin{array}{cccc|cccc} 1&0&0&0&0&-1&0&2\\ 0&1&0&0&-3&0&2&0\\ 0&0&1&0&0&2&0&-1\\ 0&0&0&1&2&0&-1&0 \end{array}\right]$$

RELACIJA

$A \cdot A^{-1} = I$

$A \cdot A^{-1}$

$$\left[\begin{array}{cccc|cccc} 0&1&0&2&0&-1&0&2\\ 1&0&2&0&-3&0&2&0\\ 0&2&0&1&0&2&0&-1\\ 2&0&1&0&2&0&-1&0 \end{array}\right] = \left[\begin{array}{cccc|cccc} 0&1&3&0&4&5&0&0&0&0&0&0&0&0&0&0\\ \cdots & & & & & & & & & & & & & & & \end{array}\right]$$

OVA ČUDNA LIČNA INVERZ ✗

$\neq I$ VIDI KERES

IME I PREZIME: MARKO ĆULINA BROJ INDEKSA:

2/ $\sqrt[4]{\frac{3+2i}{2-3i}} = z$

$\frac{3+2i}{2-3i} = \sqrt[4]{z}$

$\frac{3+2i}{2-3i} = \sqrt[4]{z} \,/\, 2-3i$

$3+2i = \sqrt[4]{z}$ X

$\sqrt[4]{z} = 3+2i$

$Re = 3$

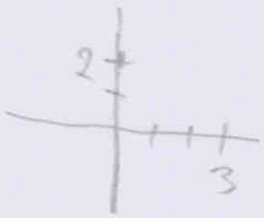
$Im = 2$

6

VIDI KOTLAR

$r = \sqrt{x^2+y^2} = \sqrt{3^2+2^2}$

$r = \sqrt{9+4} = \sqrt{13} = 3.60$



X

$\varphi = \arcsin \frac{y}{x} = \arcsin \frac{2}{3} = 0.72$

$z_1 = \sqrt[4]{3.60}\left(\cos\frac{0.72+0\cdot 2\pi}{4} + i\sin\frac{0.72+0\cdot 2\pi}{4}\right) = 0.98 + i\,0.18$

$z_1 = \sqrt[4]{3.60}\cdot(0.98+0.18i) = 1.32(0.98+0.18i) = \underline{1.34+0.23i}$

$z_2 = \sqrt[4]{3.60}\left(\cos\frac{0.72+1\cdot 2\pi}{4} + i\sin\frac{0.72+1\cdot 2\pi}{4}\right) = -0.18+0.98i$

$z_2 = 1.32(-0.18+0.98i) = \underline{-0.959+1.34i}$

$z_3 = \sqrt[4]{3.60}\left(\cos\frac{0.72+2\cdot 2\pi}{4} + i\sin\frac{0.72+2\cdot 2\pi}{4}\right) = -0.98-0.18i$

$z_3 = 1.32(-0.98-0.18i) = \underline{-1.34-0.23i}$

$z_4 = \sqrt[4]{3.60}\left(\cos\frac{0.72+3\cdot 2\pi}{4} + i\sin\frac{0.72+3\cdot 2\pi}{4}\right) = 0.18-0.98i$

$z_4 = 1.32(0.18-0.98i) = 0.23-1.34i$

IME I PREZIME: MARKO ČULINA BROJ INDEKSA:

5/

$$f(x) = \ln\left(\frac{x+1}{x-1}\right)$$

I UVJET

2 UVJET $x-1 \neq 0$

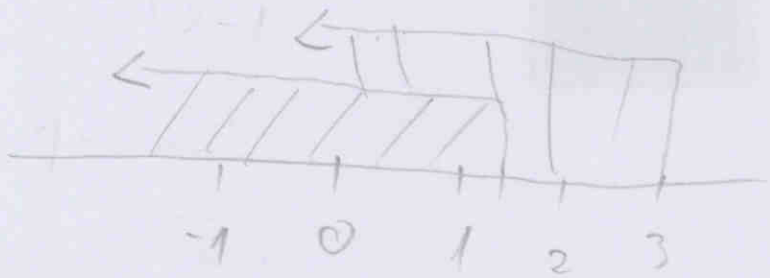
$x \neq 1$

$\ln(x-1) < 1$ /ANTILOG $\quad \ln(x-1) < -1$ /ANTILOG $\quad D_f: x \in \mathbb{R} \setminus \{1\}$

$x-1 < 2.71$ $\quad x-1 < 0.36$

$x < 2.71+1$ $\quad x < 0.36+1$

$x < 3.71$ $\quad x < 1.36$



$$0 \in \langle -\infty, 1.36\rangle \cup \langle 3.71, +\infty\rangle \cup x \in \mathbb{R} \setminus \{1\}$$

X

$D(\ln) = \langle 0, +\infty\rangle$

NULTOČKA $x_1 = -1$

$\Rightarrow \frac{x+1}{x-1} \in \langle 0, +\infty\rangle \Rightarrow \frac{x+1}{x-1} > 0$

NULTOČKA $x_2 = 1$

	$-\infty$	-1	1	$+\infty$
$x+1$	$-$	$+$	$+$	
$x-1$	$-$	$-$	$+$	
$\frac{x+1}{x-1}$	$+$	$-$	$+$	

$D(f) = \langle -\infty, -1\rangle \cup \langle 1, +\infty\rangle$

IME I PREZIME: MARKO ČULINA BROJ INDEKSA:

$S(x) = \ln\left(\frac{x+1}{x-1}\right)$

$\ln' = \frac{1}{x}$

$S'(x) = \frac{1}{\left(\frac{x+1}{x-1}\right)} = \frac{x+1}{x-1}$ ×

VIDI PENJAČOV

5| $S(x) = \ln\left(\frac{x+1}{x-1}\right)$

VERTIKALNA ASIMTOTA

$\lim_{x \to 1} \ln\left(\frac{x+1}{x-1}\right) = \lim_{x \to 1} \ln\left(\frac{1+1}{1-1}\right) = \lim \ln\left(\frac{1}{0}\right) = +\infty$

VERTIKALNA ASIMTOTA $x = 1$

HORIZONTALNA ASIMTOTA

OVA FUNKCIJA NIJE PERIODIČNA JER NE SADRŽI TRIGONOMETRIJSKE FUNKCIJE

$f(x) \neq -f(x)$ } OVA FUNKCIJA NIJE NI
$-f(x) \neq f(-x)$ } PARNA NI NEPARNA

GRAF?