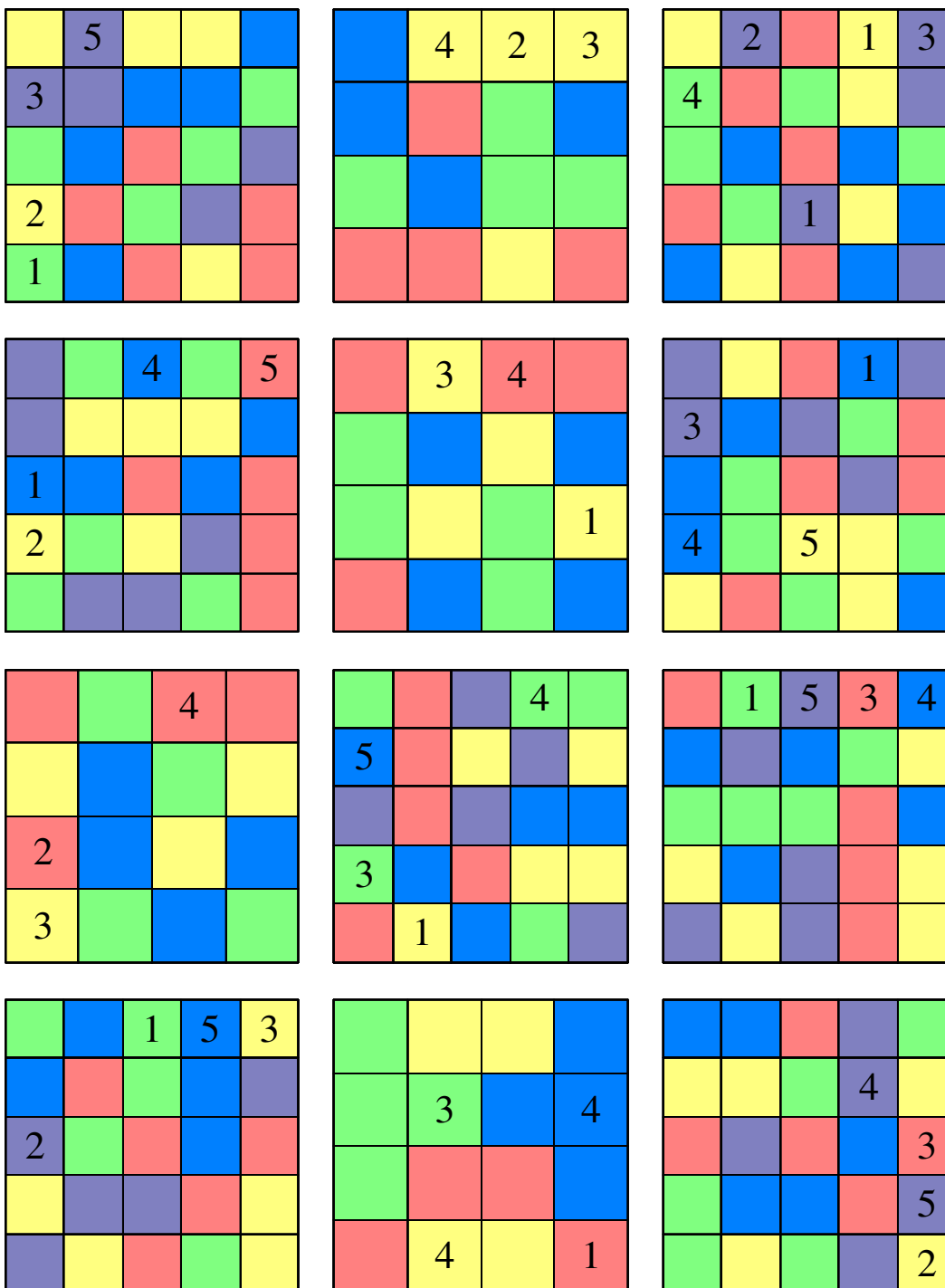


Barvni sudoku

V $n \times n$ kvadratkov moraš vpisati začetna naravna števila od 1 do n tako, da bo v vsaki vrstici, v vsakem stolpcu in v kvadratih iste barve nastopalo vseh n števil.



Latinski kvadrati

V $n \times n$ kvadratkov moraš vpisati začetne črke A, B, C, ... tako, da bo v vsaki vrstici, v vsakem stolpcu nastopalo vseh n črk.

D		B	
			A
		D	

		D		C
C	B			
D				E
	A		E	

C			
	D	B	
	B		

		B	
	A		
	D		A

E	A			
C		D		
D	C			E
		B		

A			
	C		
		D	
	B	A	

		A		
	C	B		D
			A	B
C	E			

	A	E	D	
	E			
				C
D			C	
			E	

			D
D	A		
C			
	C		

	D			B
	E	B		
				C
C		A		D

		C	D	
				A
	D			

				B
A				
			B	C

Sudoku s črkami

V $n \times n$ kvadratkov moraš vpisati začetna naravna števila od 1 do n tako, da bo v vsaki vrstici, v vsakem stolpcu in v kvadratih z isto črko nastopalo vseh n števil.

	A ³	D ¹	D ²
A		B	C
A	D	D	B
B	C	C	C

C	A	B	C
A	D ³	A	C ¹
D	D	A	D
B ⁴	C	B	B

C	B	D	A ¹
A	B	B ³	D
A ⁴	B	D	A
C	D	C	C

D	B	D	B
A ²	C	B	A
A	B	C	C ⁴
C ³	A	D	D

B	B	A ¹	D
B	B	A ⁴	C
D	D ⁴	A	C
D	C ²	A	C

D	D	B ⁴	D ¹
C	B	A	C
C	A	A	C
B	B	A ³	D

B	A	C	B ³
A	A	D	C
C	D	D	B
D ⁴	A	C	B ²

D	D ²	C ³	D
C ¹	B	A	A
B	B	A	B
C	D	A	C

B	D	D	B
B ⁴	A	A	A
C ³	D	C	A
C ¹	C	B	D

C	C	C ⁴	A ²
B	B	D ³	B
A	D	C	A
A	D	D	B

A	B ⁴	D	A
C	D ²	C	C
A	B	B	B
D	A ³	D	C

C	B	D ⁴	A
C ⁴	B	B	C
D ¹	B	D	A ³
A	C	D	A

Futoshiki

V $n \times n$ kvadratkov moraš vpisati začetna naravna števila od 1 do n tako, da bo v vsaki vrstici in v vsakem stolpcu nastopalo vseh n števil ter da bodo izpolnjene vse relacije.

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Rdeči kvadrati

Naloga reševalca je, da poišče vse skrite rdeče kvadrate in jih označi z R. Pri tem veljata naslednji pravili: a) Vsako število v preglednici pove, koliko sosednjih kvadratkov je rdečih. Kvadrata je sosedena kvadratu, če imata skupno stranico ali oglišče. b) Kvadrati s številkami niso rdeči.

	1		
		3	
1			1
	0		

	2		2
1			2
	1	0	

1			0
		2	
2			
	1	1	1

0	1		1
	2		
2			2
2			1

2	2	1	
	2		
			1

	0		
		2	2
1		2	
1			

		1	
1			1
1			1
		0	

			1
	1	2	
2			1
		2	

			1
	0		
0		1	1

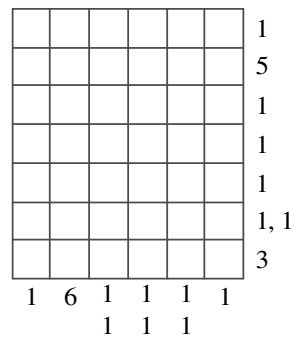
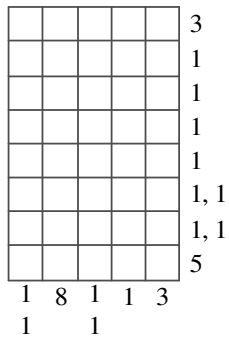
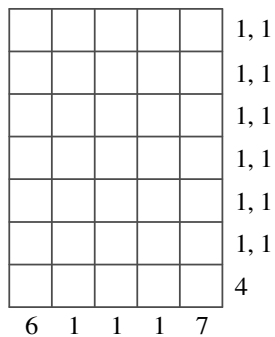
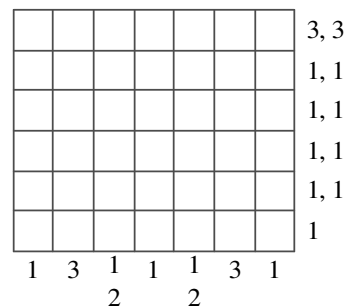
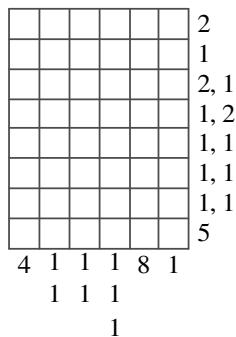
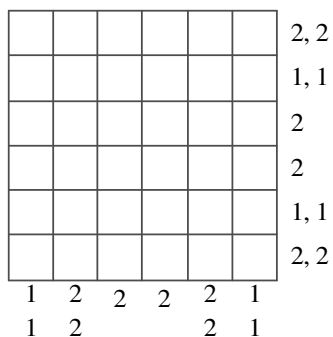
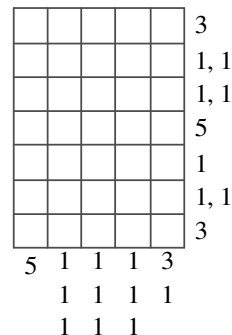
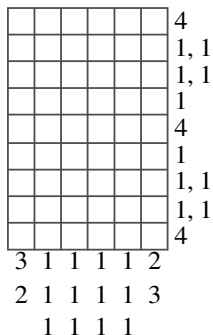
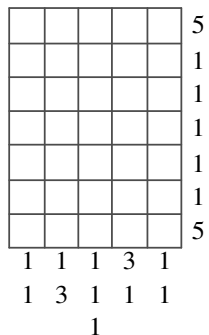
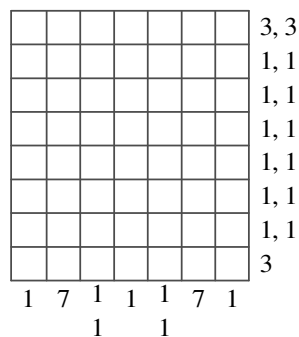
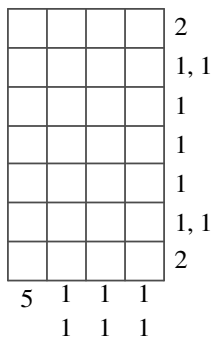
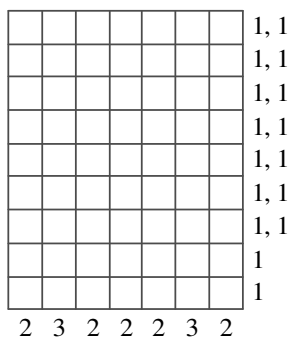
	1		
0			1
	0		
		1	

			0
2		3	
	0	2	

		1	
	1		1
	1		0
		1	

Gobelini

Kvadratke v razpredelnici moraš pobarvati sivo tako, da bo zaporedje sivih pasov v vrstici ustrezalo zaporedju števil na desni, in da bo zaporedje sivih pasov v stolpcu ustrezalo zaporedju števil pod njim.



Križne vsote

Naloga reševalca je, da izpolni bele kvadratke s števki od 1 do 9 tako, da je vsota števk v zaporednih belih kvadratih po vrsticah in stolpcih enaka številu, ki je zapisano v rdečem kvadratu na začetku vrstice (stolpca) nad (pod) diagonalo. Pri tem pa morajo biti vse številke v posamezni vrstici (stolpcu) različne.

	13	3		
7			8	
11				7
		9		
		4		

	7	14		
6				
7			3	
		11		

	5	14		
13				
9				12
		9		

	9	24		
10				4
19				
		8		

	4	20		
6				
15			14	
		17		

	17	4		
11				
13			19	
				9
		8		
		17		

	16	10		
16				
11				11
		10		

	10	12		
6				
24			18	
				17
			14	
			13	

	3	20				
9						
7					3	7
			13		22	
		12		13		
				7		
			16			
			15			

	12	16			
15			6		
18				22	
		8			15
				14	
				16	

	8	19			
12					
15				4	
		4			

	6	16			
9				15	
16					11
		15			
		8			

Križni produkti

Naloga reševalca je, da izpolni bele kvadratke s števkami od 1 do 9 tako, da bo zmnožek števk v zaporednih belih kvadratih po vrsticah in stolpcih enak številu, ki je zapisano v sivem kvadratu na začetku vrstice (stolpca) nad (pod) diagonalalo. Pri tem pa morajo biti vse številke v posamezni vrstici (stolpcu) različne.

	18	40	
36			
			28
40			
		14	

	12	24			
24			36		
48				20	
		36			10
			10		
			30		

	30	12			
15			15		
72				108	
		20			42
			18		
			63		

	10	268	3456	18
18			6	
15			54	
	432			20
	840			
6	3		24	

	15	72	14	512	
30		6		36	
12		504			
20	24	92	28		
28	108	252	63		
30		27			
	64	24			
	18				

	30	68			
42				72	10
20		45		90	
	30		135		
		432	56		
			35		

	36	40	42
140			
432			

	56	380	5184	36
32			27	
35			32	
	126		21	
	648			42
	3			
24			42	

	56	126	
42			18
144			
	21		

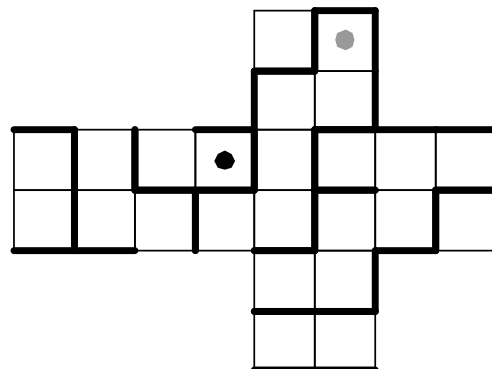
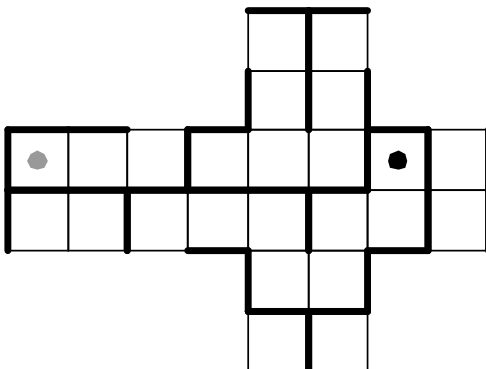
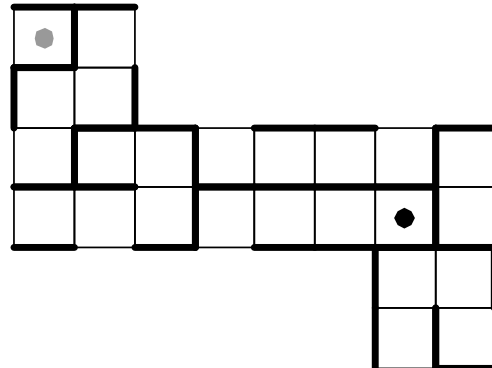
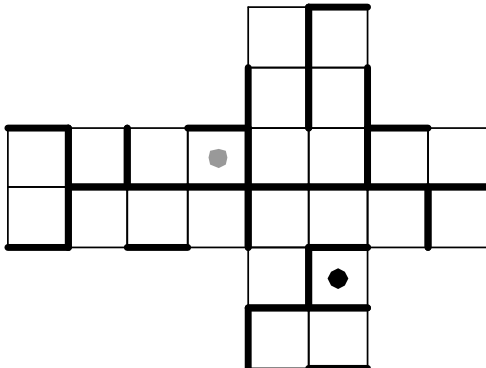
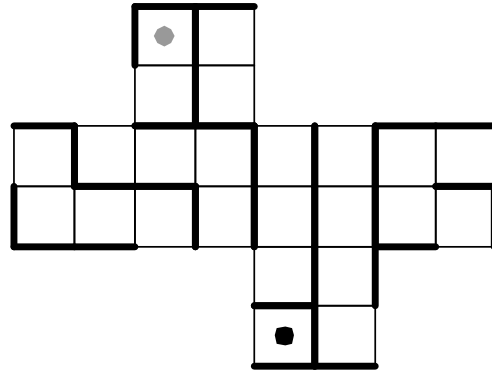
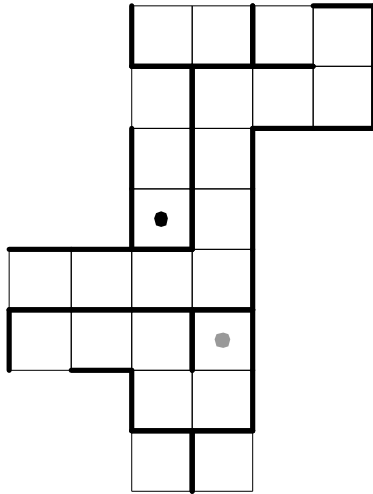
	12	21	72
336			
54			

	56	84	27	340	
21			15		12
56			162		
	24		1728	18	
63	76	224	42		
32		54			
	64	40			
	40				

	16	08	36	10	
72			27		48
8			64		
	6		336	30	
21	52		12		
		168			
6		14			
	72				
	378				
	48				

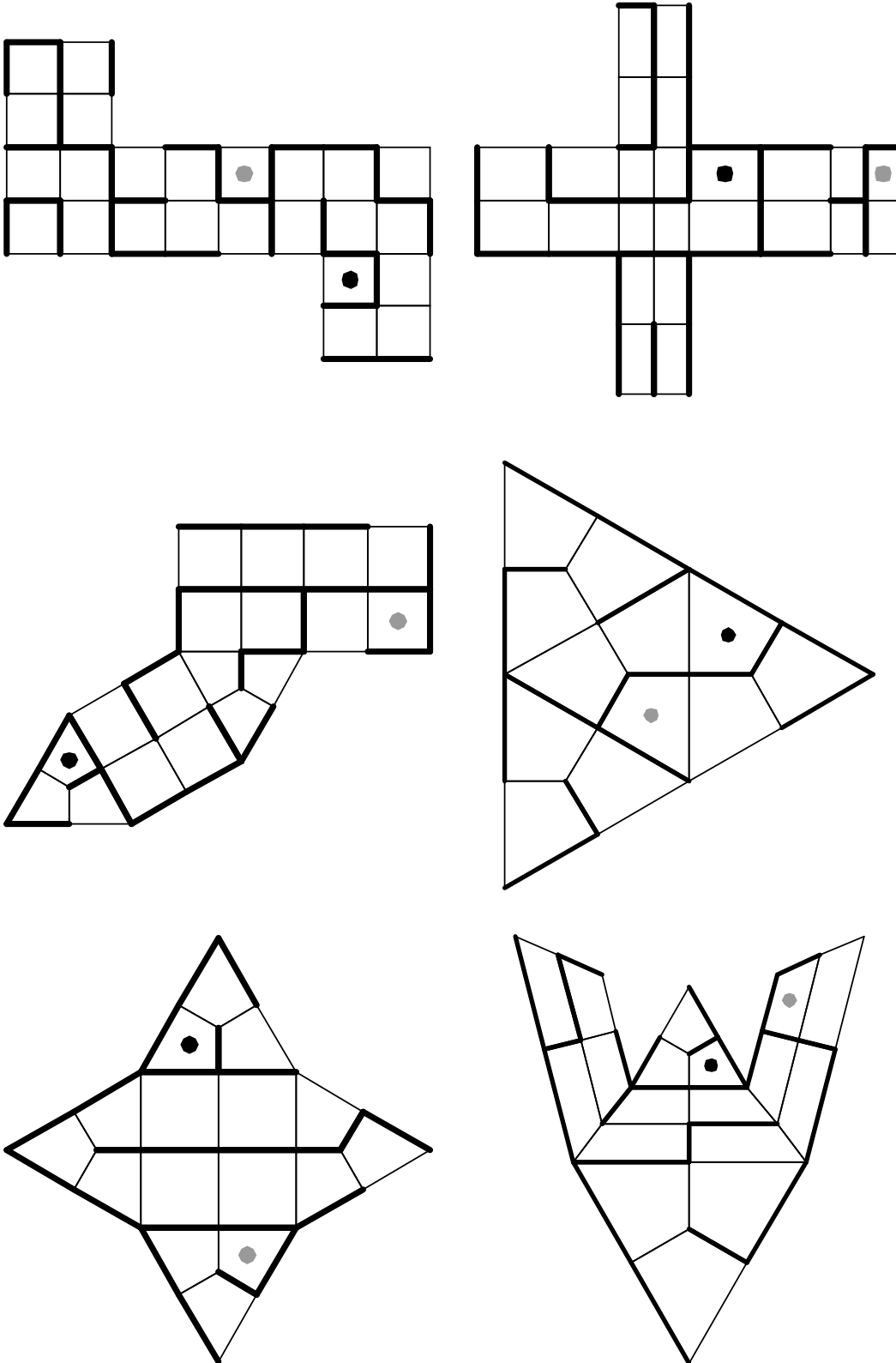
Labirint na kocki

Poveži točki na kocki:

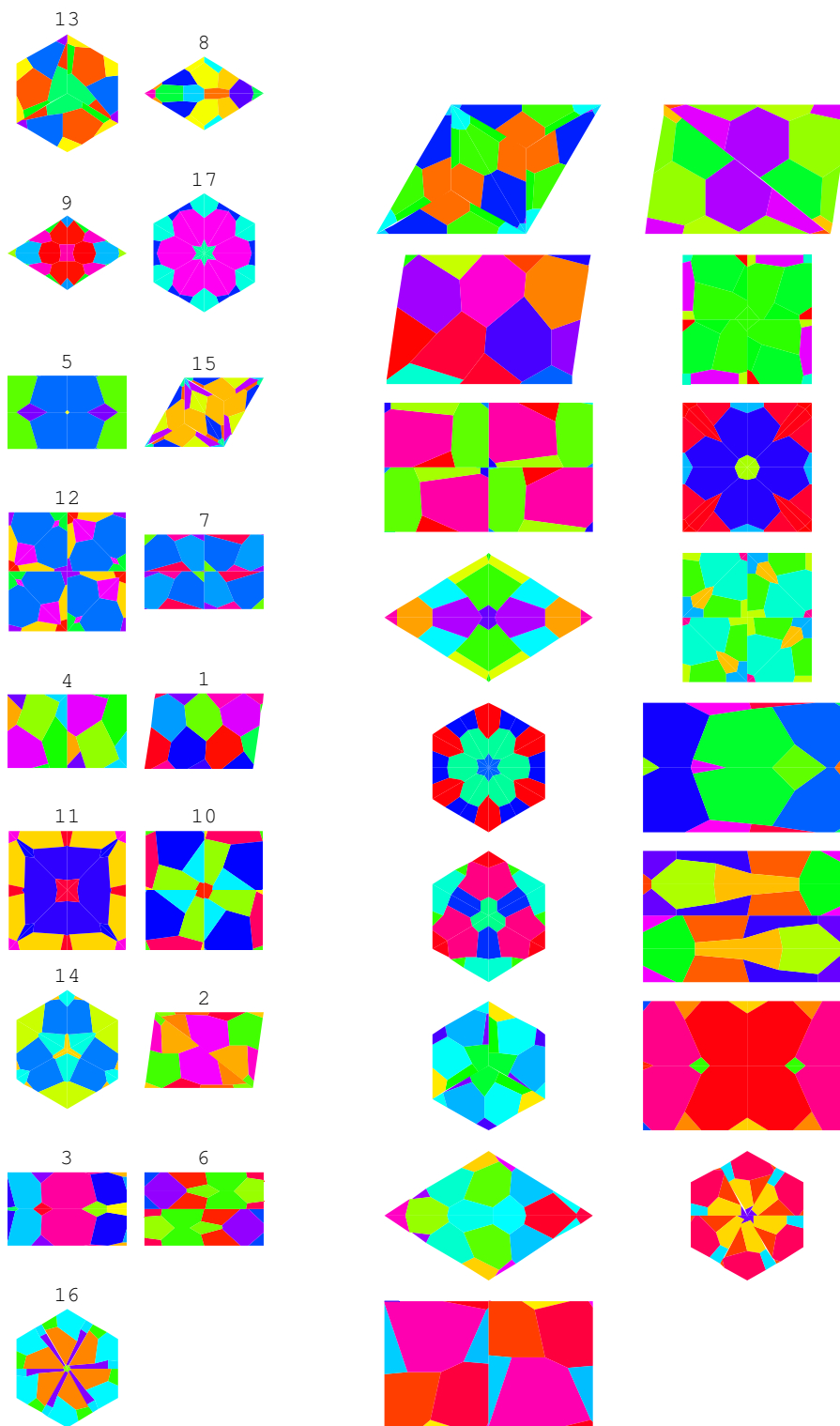


Labirinti na enostavnih poliedrih

Poveži točki na poliedru:

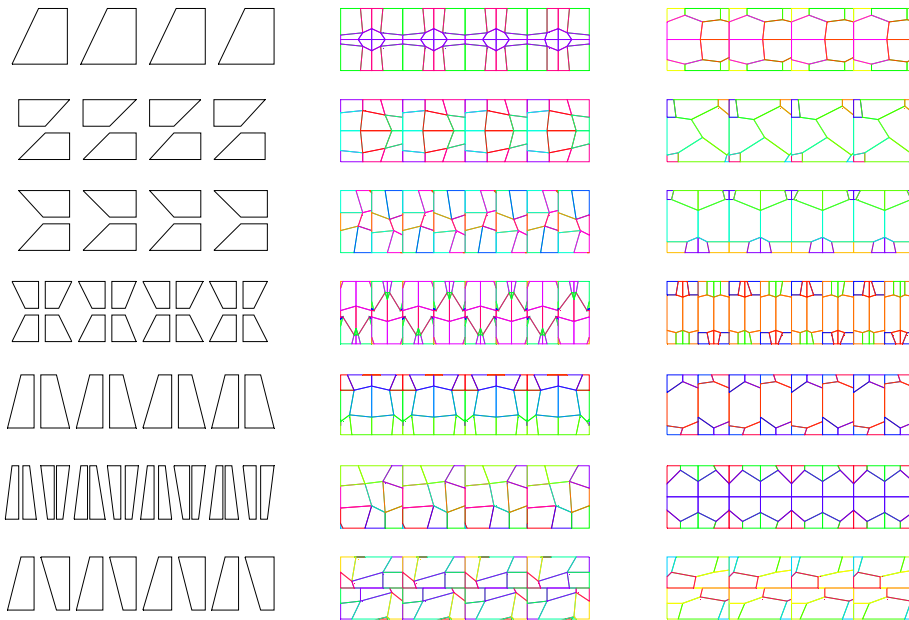


Poveži sličici, ki pripadata isti grupi

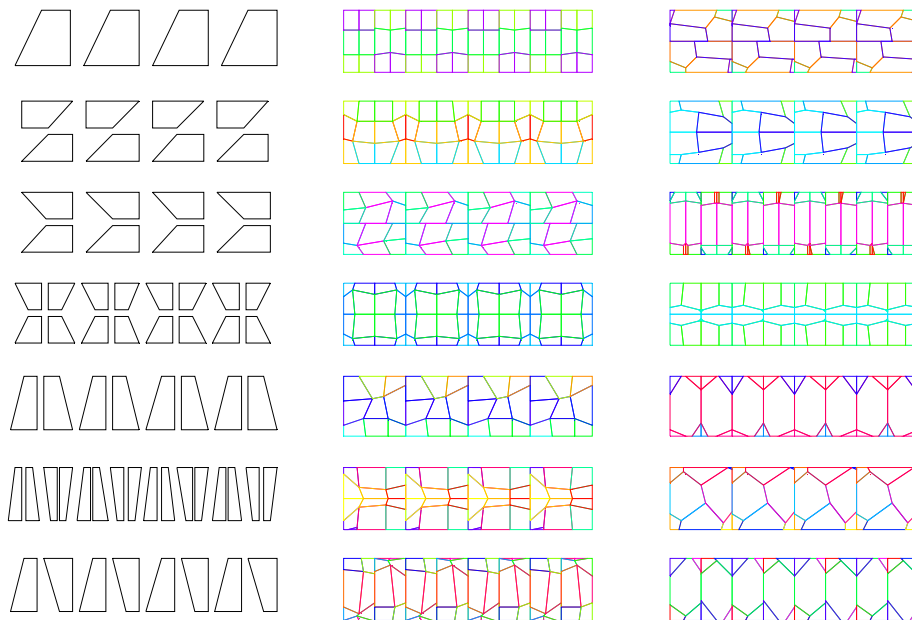


Poveži sličici, ki pripadata isti grupi

a)

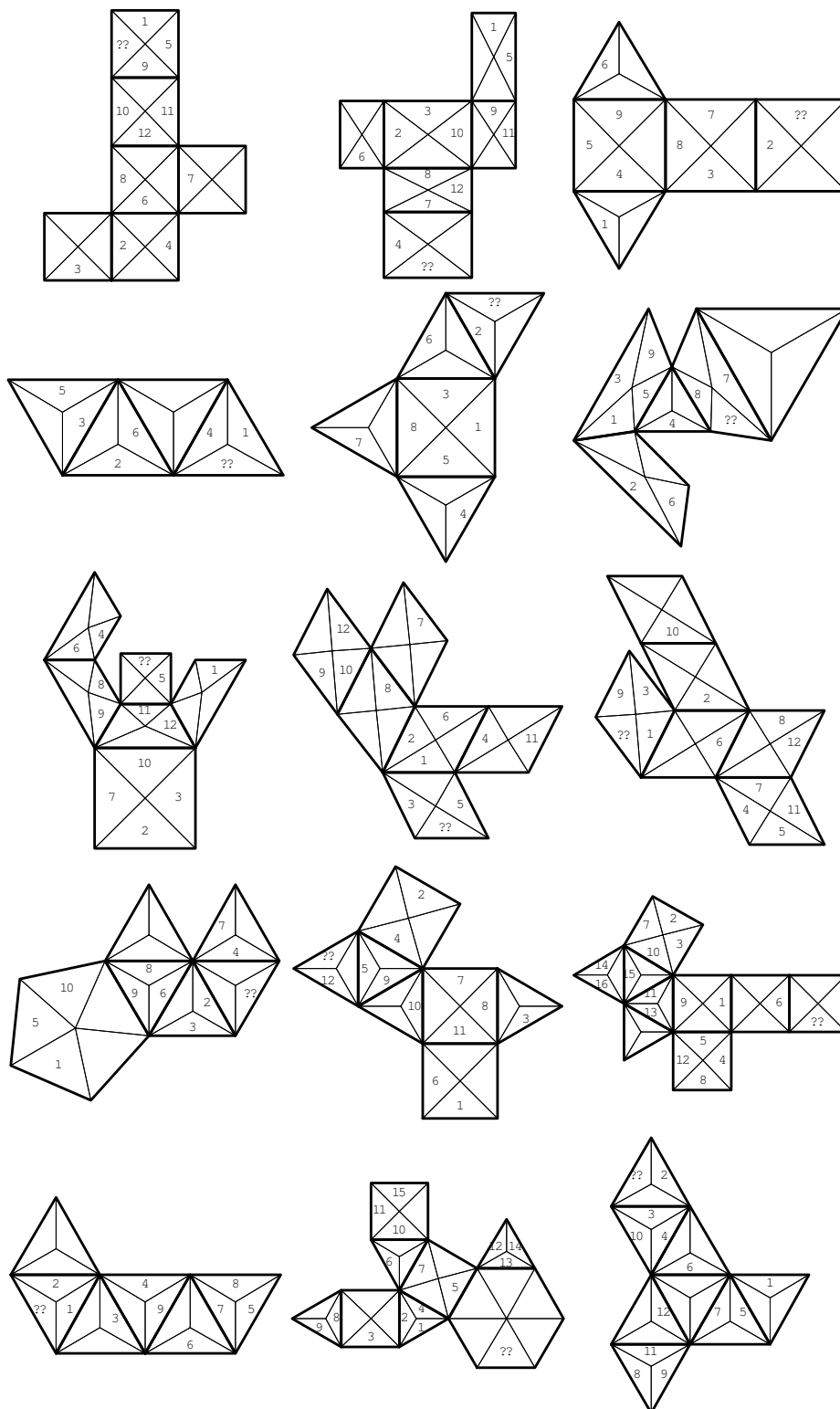


b)

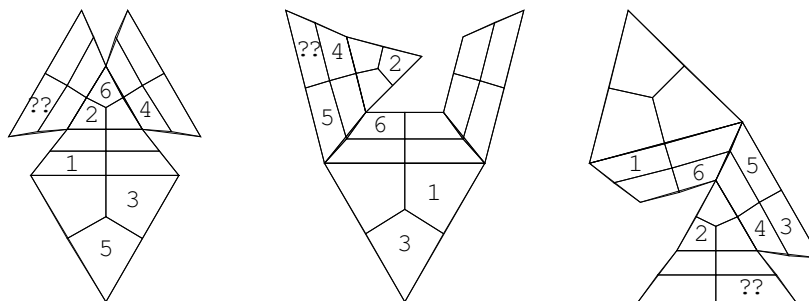
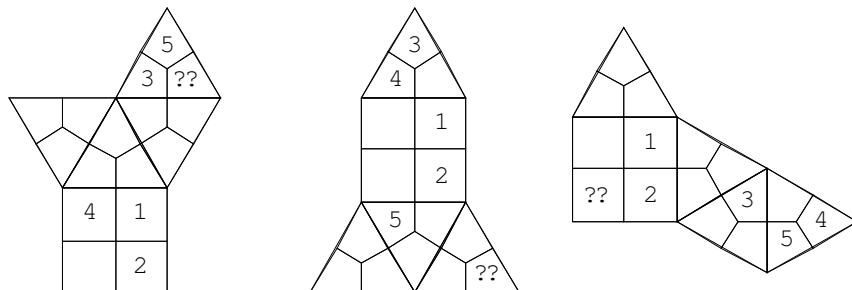
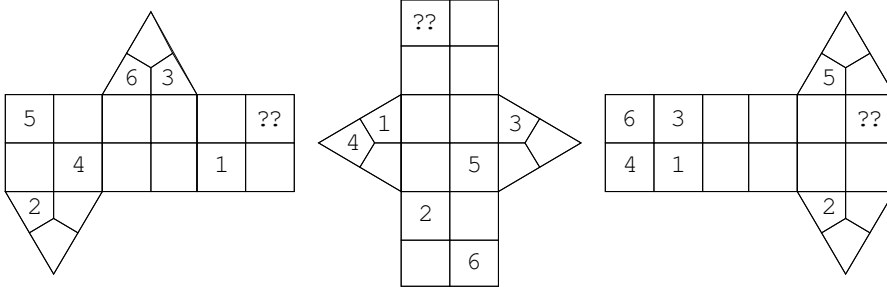
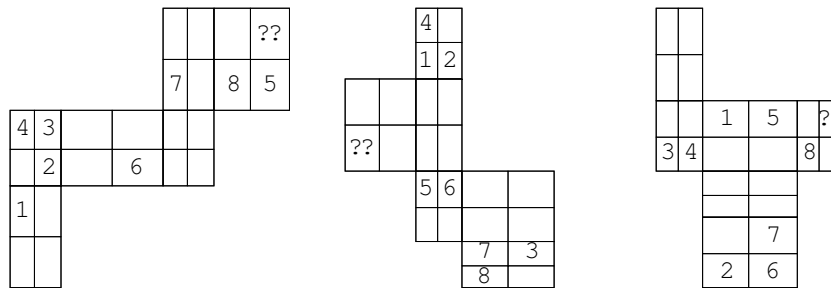
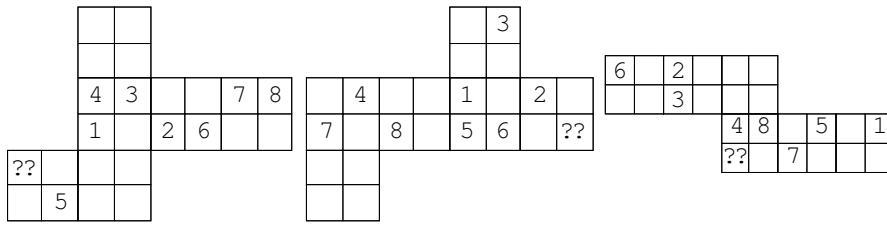


Prostorska predstavljivost

a) Katero število moramo vpisati na mesto znaka ??, da bosta stranici pripadali istemu robu poliedra?



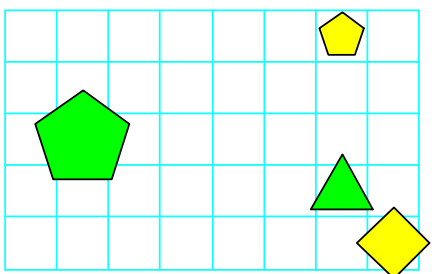
b) Katero številko moramo vpisati na mesto znaka ??, da bosta oglišči pripadali istemu oglišču poliedra?



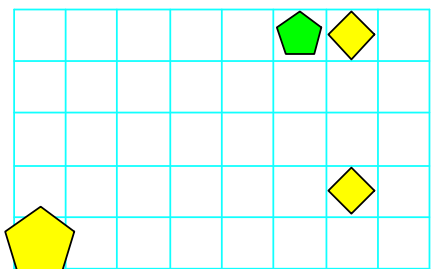
Imena likov

Dane so resničnostne vrednosti stavkov (R ali N). Poiskati je treba imena likov, ki so začetne črke v zaporedju A, B, C, D, E, ... Liki so treh oblik (trikotnik, kvadrat, petkotnik), treh velikosti (majhen, srednji, velik) in treh barv (oranžne, rumene, zelene).

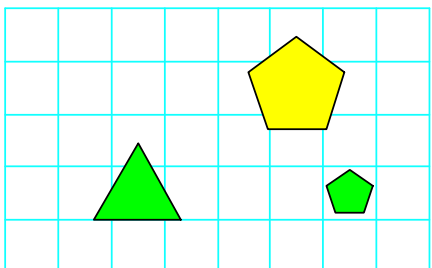
1.



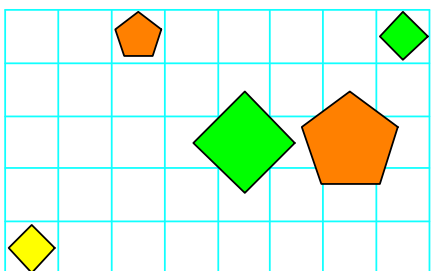
1. Če je lik B srednje velikosti, potem lik D ni trikotnik.	N
2. Če lik C ni kvadrat, potem lik D ni rumen.	R
3. Lik A je desno od C.	R
4. Lik B je nad C.	N



1. Če je lik A majhen, potem lik A ni kvadrat.	R
2. Lik A je desno od B.	R
3. Lik C je pod D.	N

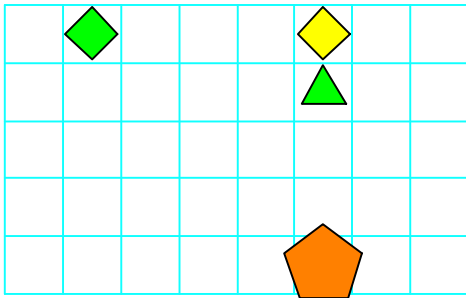


1. Lik A je desno od B.	N
2. Lik B je levo od C.	R

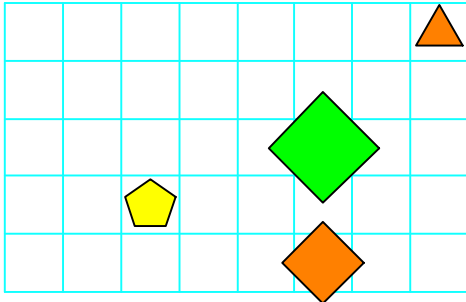


1. Če je lik E zelen, potem je lik B rumen.	N
2. Lik E ni majhen ali lik D ni zelen.	N
3. Lik B je nad D.	N
4. Lik A je pod E.	N

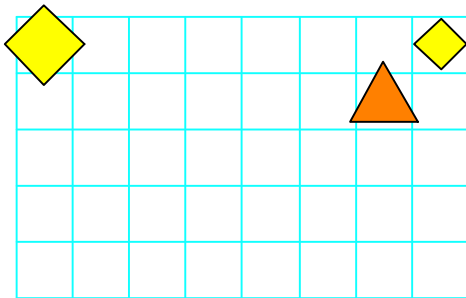
2.



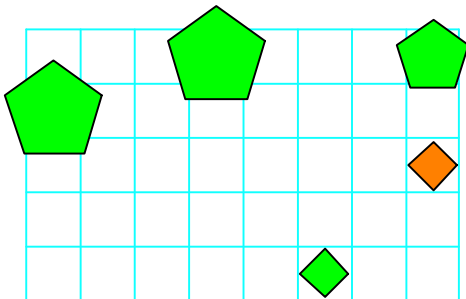
1. Lik C ni zelen ali lik B ni rumen.	N
2. Lik A je pod C.	N
3. Lik A je desno od D.	N



1. Lik B je rumen ali je lik C petkotnik.	N
2. Lik C ni kvadrat in lik A je velik.	R
3. Lik A je nad D.	R
4. Lik C je manjši kot D.	N

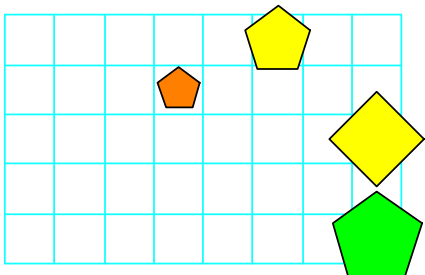


1. Lik B je desno od C.	N
2. Lik A je levo od C.	N

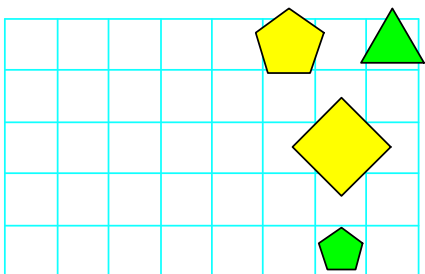


1. Če lik C ni zelen, potem je lik B oranžen.	R
2. Ali je lik E majhen ali lik B ni trikotnik.	R
3. Lik B je manjši kot D.	R
4. Lik B je nad D.	R

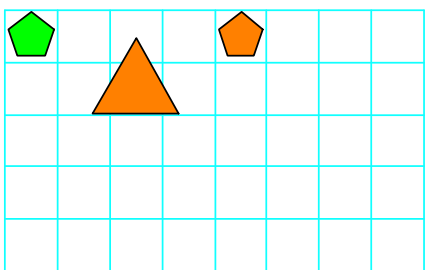
3.



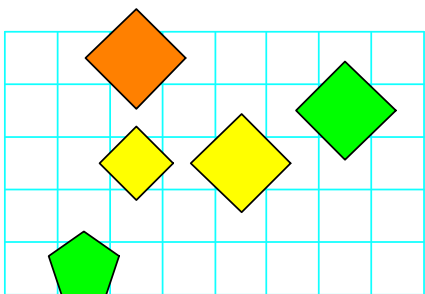
1. Če je lik A zelen, potem lik A ni zelen.	R
2. Lik A je nad C.	N
3. Lik B je večji kot C.	N



1. Lik B je srednje velikosti, če in samo če lik D ni trikotnik.	N
2. Lik A je desno od D.	N
3. Lik B je manjši kot D.	R

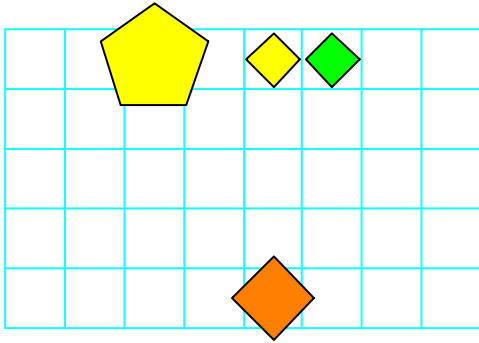


1. Lik A je večji kot C.	R
2. Lik A je desno od C.	N

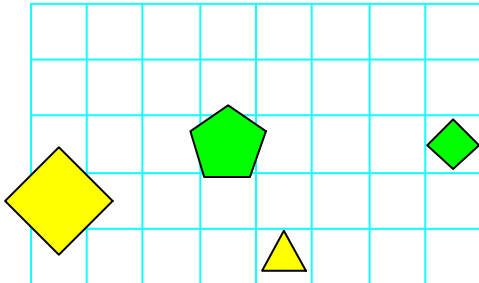


1. Lik C ni petkotnik, če in samo če lik C ni velik.	R
2. Lik E ni majhen in lik A ni zelen.	N
3. Lik B je večji kot D.	R
4. Lik A je nad B.	R

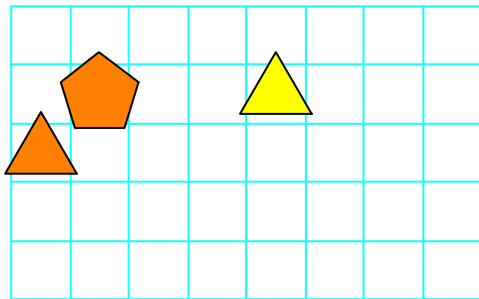
4.



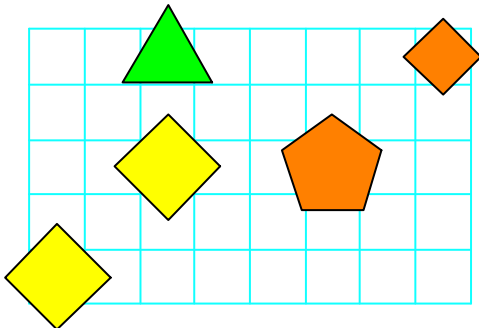
1. \neg Rumen (A) \Leftrightarrow \neg Srednje v. (A)	R
2. Kvadrat (C) \forall Srednje v. (D)	R
3. Pod (B, D)	R
4. Manjši kot (B, D)	R



1. \neg Trikotnik (A) \vee \neg Majhen (A)	N
2. Levo od (A, C)	R
3. Pod (B, D)	N

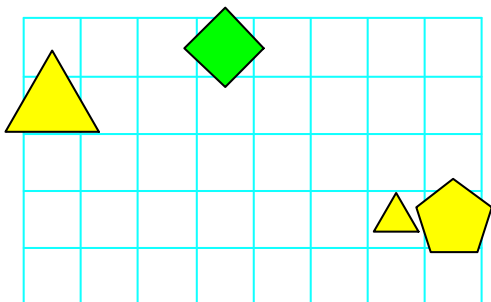


1. Petkotnik (C) \wedge Rumen (B)	N
2. \neg Kvadrat (A) \wedge \neg Velik (B)	R
3. Levo od (A, B)	R
4. Pod (A, C)	R

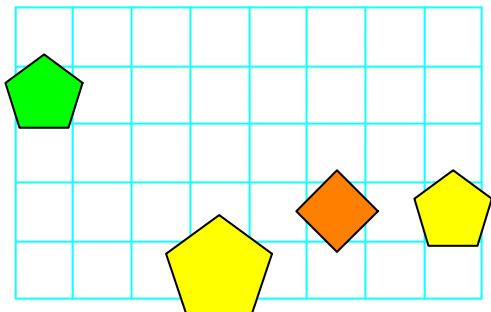


1. Majhen (A) \forall \neg Trikotnik (A)	N
2. \neg Kvadrat (A) \Rightarrow \neg Petkotnik (B)	N
3. Levo od (C, D)	N
4. Levo od (A, C)	N

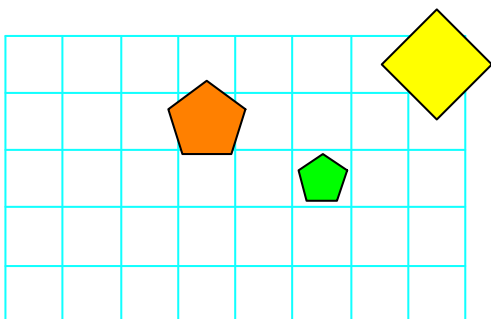
5.



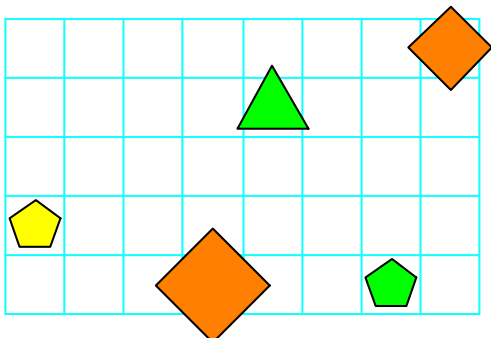
1. \neg Srednje v. (A) \vee \neg Srednje v. (D)	N
2. Kvadrat (C) \Leftrightarrow Trikotnik (C)	R
3. Večji kot (A, C)	R
4. Desno od (B, D)	N



1. \neg Petkotnik (D) \vee \neg Zelen (B)	R
2. Manjši kot (A, D)	R
3. Desno od (B, C)	N

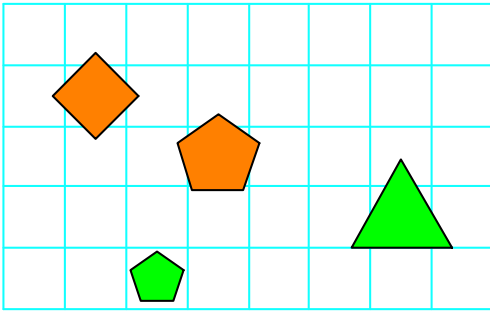


1. Srednje v. (C) \wedge \neg Kvadrat (C)	R
2. Desno od (B, C)	R
3. Večji kot (B, C)	N

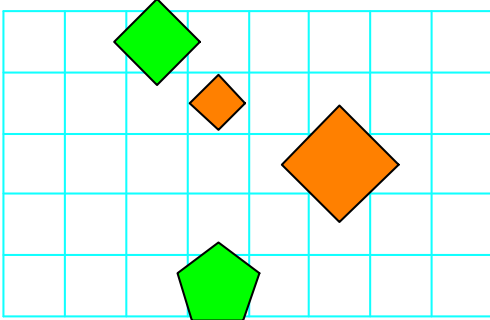


1. \neg Majhen (E) \wedge Velik (D)	R
2. Oranžen (B) \vee Rumen (A)	N
3. Oranžen (D) \Rightarrow Srednje v. (A)	N
4. Pod (B, D)	N
5. Levo od (A, E)	N

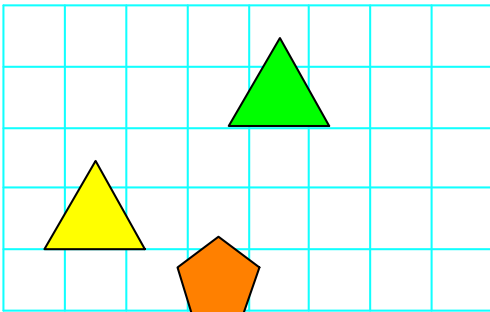
6.



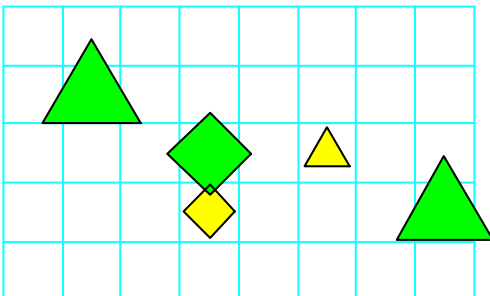
1. \neg Majhen (A) \wedge Majhen (A)	N
2. Trikotnik (C) \Rightarrow \neg Petkotnik (A)	N
3. Manjši kot (B, C)	R
4. Pod (B, C)	R



1. \neg Oranžen (A) \Leftrightarrow \neg Petkotnik (C)	N
2. Večji kot (A, B)	N
3. Manjši kot (A, C)	N



1. \neg Kvadrat (B) \vee Petkotnik (C)	R
2. Manjši kot (A, B)	R
3. Levo od (A, B)	R



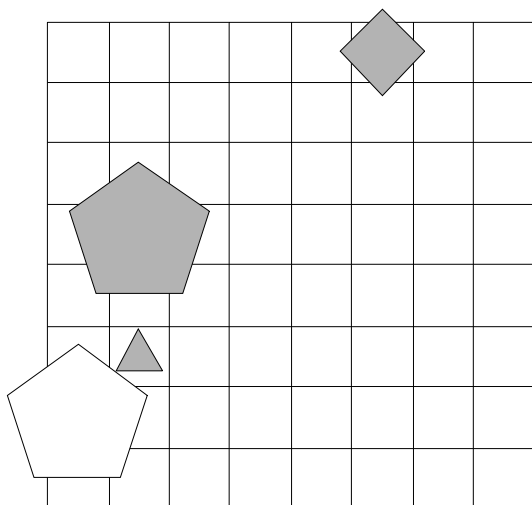
1. Zelen (E) \vee \neg Trikotnik (E)	N
2. Trikotnik (C) \Rightarrow Velik (C)	N
3. Petkotnik (A) \vee Trikotnik (C)	R
4. Nad (A, C)	R
5. Levo od (B, D)	N

Ugotavljanje imen likov

1. Ugotovi imena likov, če poznaš vrednosti stavkov v danem svetu, ki so podane v spodnji tabeli.

1. Lik A ni srednje velikosti, če in samo če lik A ni velik.
2. Lik D je majhen, če in samo če lik B ni siv.
3. Če lik C ni bel, potem lik B ni petkotnik.
4. Če lik D je majhen, potem lik B ni siv.

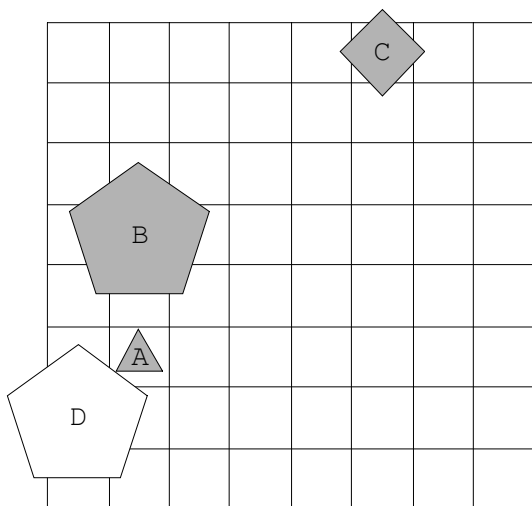
1	2	3	4
R	R	N	R



Rešitev:

Prvi stavek je resničen, če sta leva in desna stran resnični (ne moreta biti obe neresnični). Torej je A majhen lik in to je le trikotnik. Iz 2. stavka sledi (ker D ni majhen), da je B siv lik.

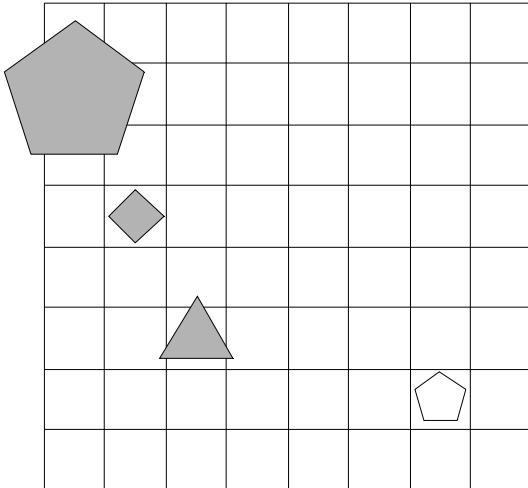
Ker je 3. stavek neresničen, lik C ni bel in B je petkotnik. Torej je B sivi petkotnik in C je sivi kvadrat. Lik D je beli petkotnik. Četrty pogoj pa je odveč.



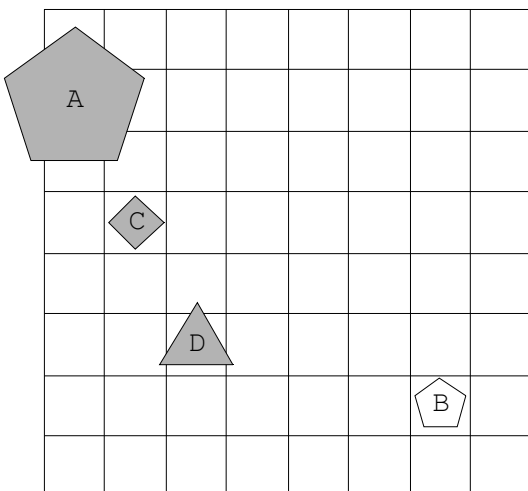
2. Ugotovi imena likov, če poznaš vrednosti stavkov v danem svetu, ki so podane v spodnji tabeli.

1. Lik D ni petkotnik, če in samo če lik B ni majhen.
2. Lik B je majhen ali lik D ni velik.
3. Ali lik C je kvadrat ali lik D ni kvadrat.
4. Lik D ni srednje velikosti ali lik A ni petkotnik.

1	2	3	4
N	R	N	N



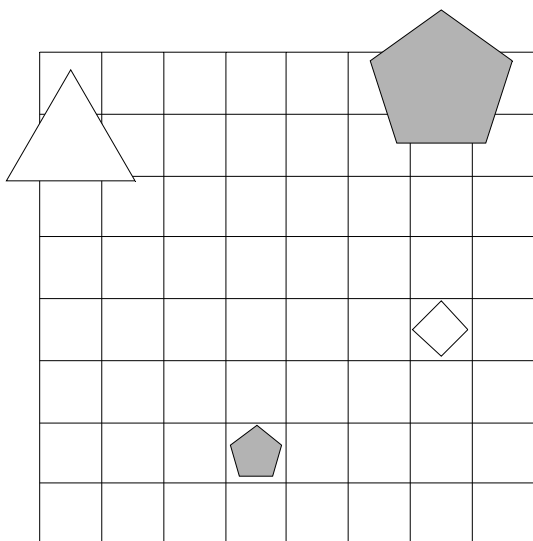
Ker je 4. izjava neresnična, je D srednje velikosti, torej je sivi trikotnik. Lik A pa je petkotnik. Zaradi 1. izjave (ker D ni petkotnik), je B majhen lik (2. izjava je odveč). Zaradi neresničnosti 3. izjave, je C kvadrat. Drugi majhen lik je B, torej je B beli petkotnik. A je torej veliki sivi petkotnik.



3. Ugotovi imena likov, če poznaš vrednosti stavkov v danem svetu, ki so podane v spodnji tabeli.

1. Lik C ni kvadrat ali lik A ni trikotnik.
2. Lik D ni velik in lik C je trikotnik.
3. Lik B je petkotnik ali lik C je kvadrat.
4. Lik D je majhen ali lik B je bel.

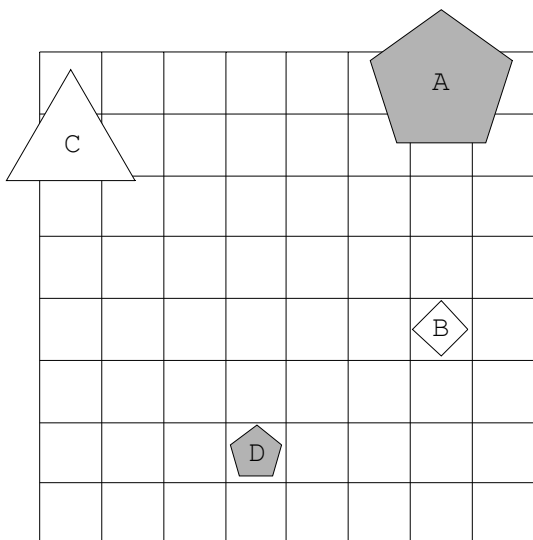
1	2	3	4
R	R	N	R



Rešitev:

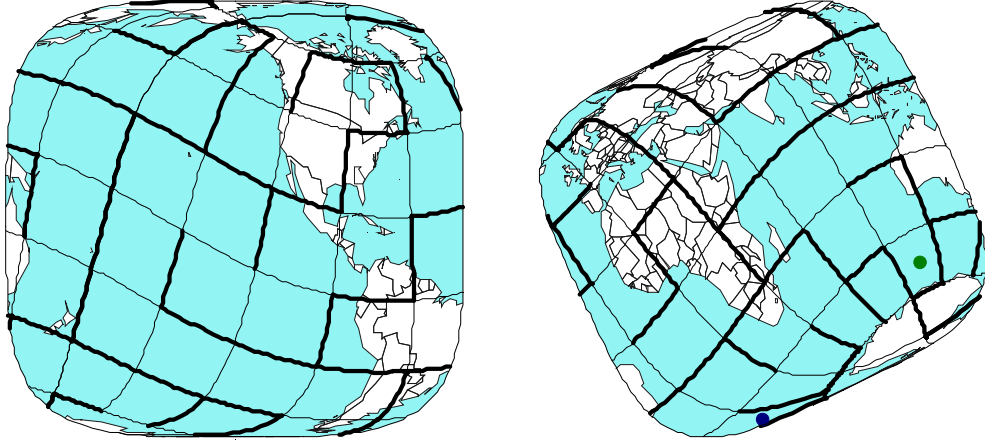
Iz resničnosti 2. stavka sledi, da je lik C trikotnik (in to velik) in lik D ni velik.

Iz neresničnosti 3. stavka sledi, da B ni petkotnik in ker je C trikotnik, je B edini kvadrat. (Zato je 4. pogoj odveč). Ker D ni velik, je lahko le mali petkotnik, A pa je veliki petkotnik. (Tudi 1. pogoj je odveč).

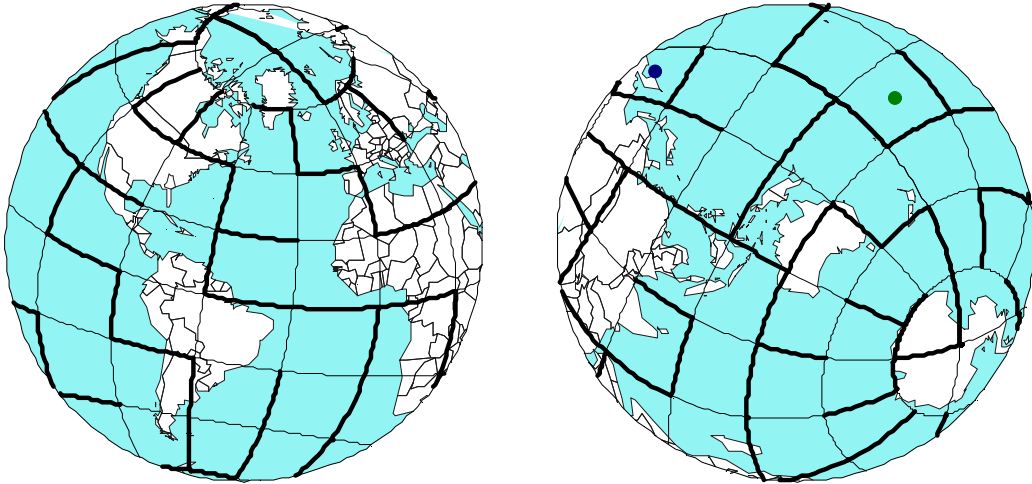


Labirinti na zemljevidu

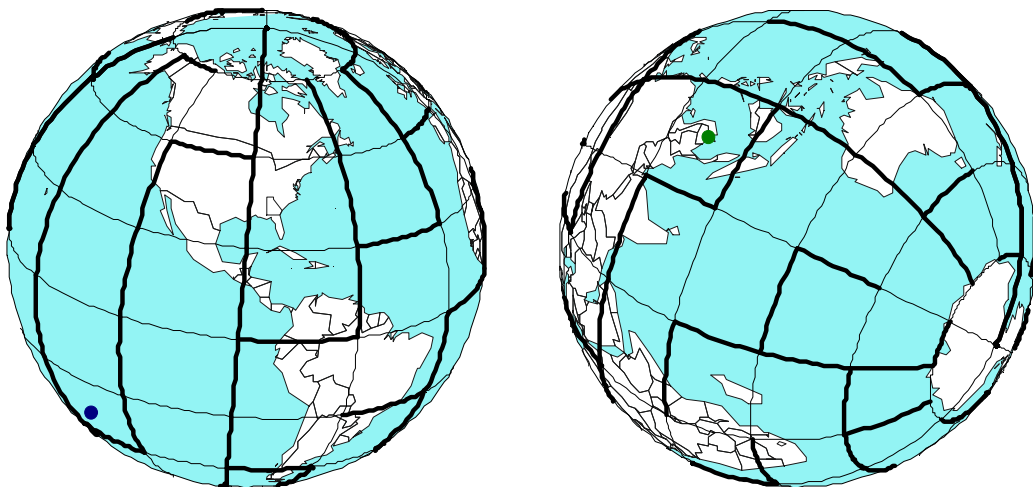
a)



b)

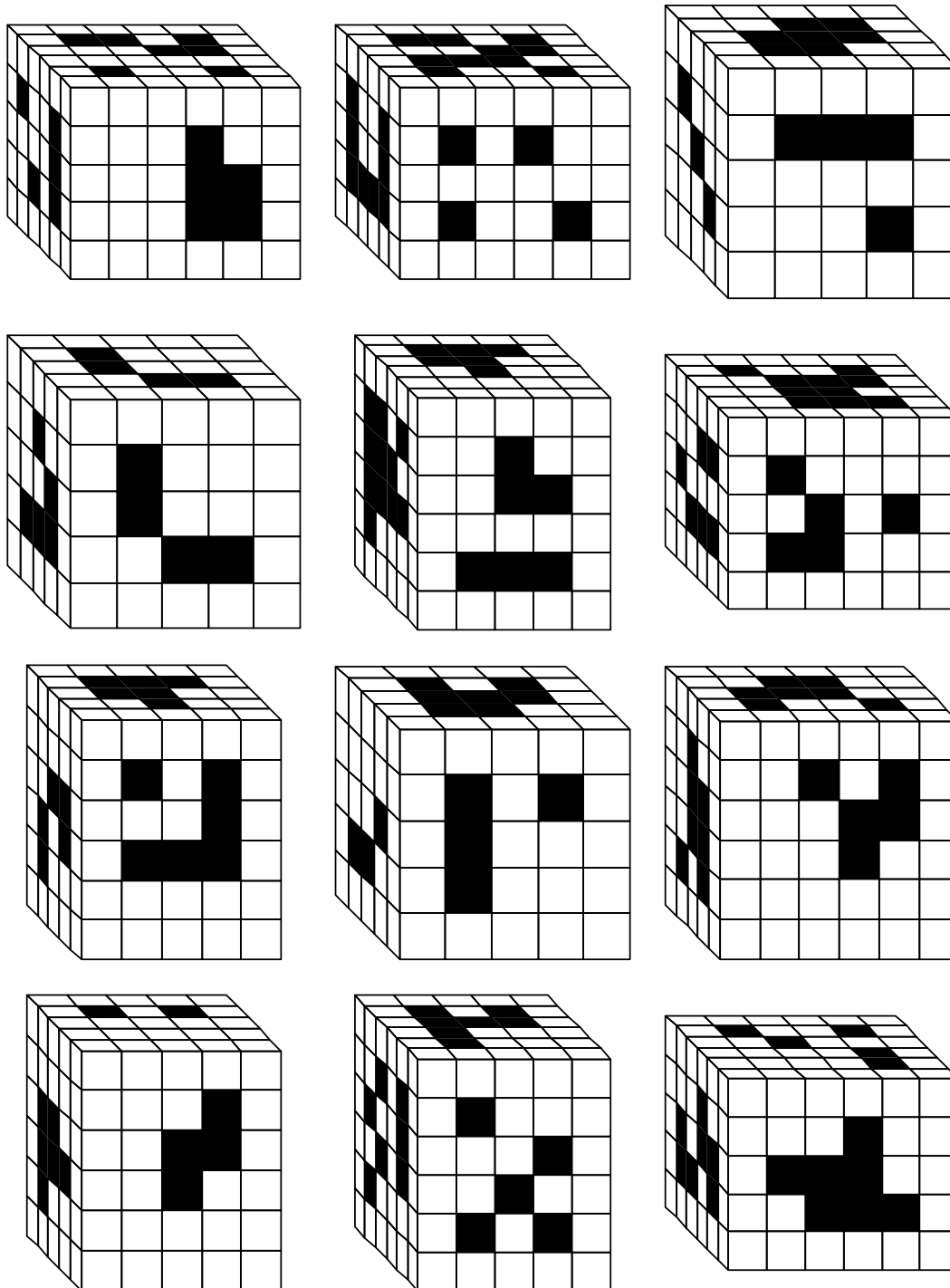


c)



Odstranjene kocke

Dan je kvader, ki sestoji iz kockic. Odstranimo vse kocke, ki so zaznamovane črno od vrha do dna, od leve do desne in od spredaj do zadaj. Koliko kock smo odstranili?



Nagradna logična naloga

Trije prijatelji (Borut, Miran, Tone) z različnimi priimki (Gornik, Vrhovnik, Gorjanc) so različnih poklicev (mizar, pek, trgovec).

Za vsakega ugotovi ime, priimek in poklic.

1. Tone ni ne pek ne trgovec.
2. Gorjanc ni ne trgovec ne mizar.
3. Miran ni trgovec.
4. Vrhovnik ni po poklicu mizar.

	Gornik	Vrhovnik	Gorjanc	mizar	pek	trgovec
Borut						
Miran						
Tone						
mizar						
pek						
trgovec						

ime	priimek	poklic
Borut		
Miran		
Tone		

Rešitev nagradne uganke pošljite do 10.6.2014 na naslov Logika d.o.o., Svetčeva pot 11, 1241 Kamnik, s pripisom »Nagradna uganika«.

Naslednji reševalci nagradne uganke iz 3. številke bodo prejeli poševno prizmo:

Lara Hace iz Grahovega ter Nik Hrastnik, Tinkara Kramer in Nadja Slapšak iz Laškega.

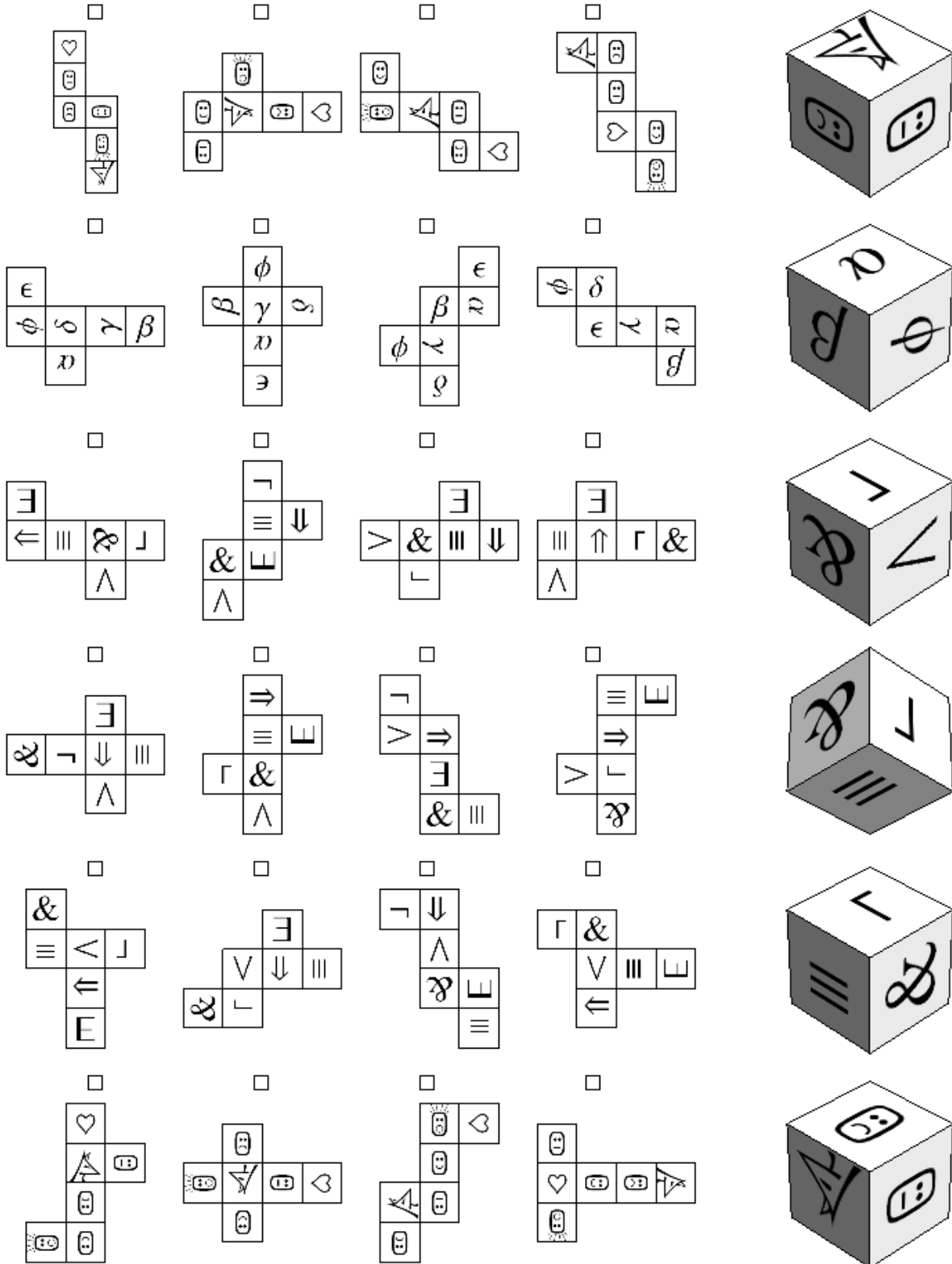
Poliedrska jelka 2014

Letos smo dobili le eno sliko poliedrske jelke. Poslala nam jo je Katja Krivec, mentorica izbirnega predmeta Logika 1 na OŠ Koroški jeklarji Ravne na Koroškem.



Kocki določi mrežo

Vsaki kocki na desni določi njeno mrežo.



Rešitve

Barvni sudoku

4	5	1	3	2
3	2	5	1	4
5	3	4	2	1
2	1	3	4	5
1	4	2	5	3

1	4	2	3
4	1	3	2
2	3	4	1
3	2	1	4

5	2	4	1	3
4	1	3	2	5
2	4	5	3	1
3	5	1	4	2
1	3	2	5	4

3	1	4	2	5
5	4	3	1	2
1	5	2	3	4
2	3	5	4	1
4	2	1	5	3

1	3	4	2
4	1	2	3
2	4	3	1
3	2	1	4

2	4	3	1	5
3	2	1	5	4
5	3	2	4	1
4	1	5	3	2
1	5	4	2	3

1	2	4	3
4	1	3	2
2	3	1	4
3	4	2	1

1	3	5	4	2
5	2	3	1	4
2	5	4	3	1
3	4	1	2	5
4	1	2	5	3

2	1	5	3	4
5	4	1	2	3
3	5	4	1	2
4	3	2	5	1
1	2	3	4	5

4	2	1	5	3
3	1	2	4	5
2	5	3	1	4
5	3	4	2	1
1	4	5	3	2

4	1	3	2
2	3	1	4
1	2	4	3
3	4	2	1

2	1	5	3	4
3	5	2	4	1
4	2	1	5	3
1	3	4	2	5
5	4	3	1	2

Latinski kvadrati

D	A	B	C
B	D	C	A
C	B	A	D
A	C	D	B

A	E	D	B	C
E	D	A	C	B
C	B	E	D	A
D	C	B	A	E
B	A	C	E	D

B	C	A	D
C	A	D	B
A	D	B	C
D	B	C	A

A	C	B	D
C	A	D	B
D	B	A	C
B	D	C	A

E	A	C	D	B
C	B	D	E	A
D	C	A	B	E
B	D	E	A	C
A	E	B	C	D

A	D	C	B
D	C	B	A
B	A	D	C
C	B	A	D

D	B	A	C	E
A	C	B	E	D
E	D	C	A	B
C	E	D	B	A
B	A	E	D	C

C	A	E	D	B
A	E	C	B	D
E	D	B	A	C
D	B	A	C	E
B	C	D	E	A

A	B	C	D
D	A	B	C
C	D	A	B
B	C	D	A

E	D	C	A	B
D	E	B	C	A
B	A	E	D	C
A	C	D	B	E
C	B	A	E	D

A	C	D	B
D	B	C	A
C	A	B	D
B	D	A	C

C	D	A	B
B	C	D	A
A	B	C	D
D	A	B	C

Sudoku s črkami

4 A	3 A	1 D	2 D
1 A	2 B	4 B	3 C
2 A	4 D	3 D	1 B
3 B	1 C	2 C	4 C

3 C	1 A	2 B	4 C
2 A	3 D	4 A	1 C
1 D	4 D	3 A	2 D
4 B	2 C	1 B	3 B

3 C	4 B	2 D	1 A
2 A	1 B	3 B	4 D
4 A	2 B	1 D	3 A
1 C	3 D	4 C	2 C

4 D	2 B	3 D	1 B
2 A	1 C	4 B	3 A
1 A	3 B	2 C	4 C
3 C	4 A	1 D	2 D

4 B	3 B	1 A	2 D
2 B	1 B	4 A	3 C
3 D	4 D	2 A	1 C
1 D	2 C	3 A	4 C

3 D	2 D	4 B	1 D
4 C	3 B	1 A	2 C
1 C	4 A	2 A	3 C
2 B	1 B	3 A	4 D

1 B	2 A	4 C	3 B
3 A	4 A	2 D	1 C
2 C	3 D	1 D	4 B
4 D	1 A	3 C	2 B

4 D	2 D	3 C	1 D
1 C	4 B	2 A	3 A
3 B	1 B	4 A	2 B
2 C	3 D	1 A	4 C

2 B	3 D	4 D	1 B
4 B	2 A	1 A	3 A
3 C	1 D	2 C	4 A
1 C	4 C	3 B	2 D

1 C	3 C	4 C	2 A
2 B	1 B	3 D	4 B
3 A	4 D	2 C	1 A
4 A	2 D	1 D	3 B

2 A	4 B	3 D	1 A
3 C	2 D	1 C	4 C
4 A	1 B	2 B	3 B
1 D	3 A	4 D	2 C

3 C	2 B	4 D	1 A
4 C	3 B	1 B	2 C
1 D	4 B	2 D	3 A
2 A	1 C	3 D	4 A

Futoški

<p>3 1 < 2 < 4</p> <p>4 3 1 2</p> <p>1 2 4 3</p> <p>2 4 3 > 1</p>	<p>3 4 2 5 1</p> <p>2 5 4 > 1 3</p> <p>4 1 < 5 3 > 2</p> <p>1 2 3 4 5</p> <p>5 > 3 1 2 4</p>	<p>2 > 1 3</p> <p>1 3 > 2</p> <p>3 2 1</p>
<p>1 3 2 4</p> <p>4 > 2 < 3 1</p> <p>2 < 4 1 3</p> <p>3 1 4 2</p>	<p>5 2 > 1 4 3</p> <p>4 5 2 < 3 1</p> <p>3 1 5 2 4</p> <p>2 3 < 4 1 5</p> <p>1 4 3 < 5 2</p>	<p>2 5 4 1 < 3</p> <p>1 4 3 5 > 2</p> <p>3 > 1 5 2 4</p> <p>4 2 1 < 3 5</p> <p>5 3 2 4 1</p>
<p>2 1 < 3</p> <p>1 3 2</p> <p>3 2 > 1</p>	<p>1 < 3 2 4</p> <p>3 4 1 2</p> <p>2 1 < 4 > 3</p> <p>4 2 3 1</p>	<p>4 3 > 1 2</p> <p>3 1 2 4</p> <p>2 4 3 1</p> <p>1 < 2 < 4 3</p>
<p>4 5 2 1 3</p> <p>1 3 4 5 2</p> <p>3 > 1 5 2 < 4</p> <p>2 4 1 3 5</p> <p>5 2 < 3 < 4 1</p>	<p>3 4 5 1 2</p> <p>4 1 2 < 3 5</p> <p>1 < 2 3 5 > 4</p> <p>5 3 4 > 2 1</p> <p>2 5 1 4 3</p>	<p>2 > 1 3 4 < 5</p> <p>4 3 2 5 1</p> <p>5 4 1 3 2</p> <p>3 2 5 1 < 4</p> <p>1 5 4 2 < 3</p>

Rdeči kvadrati

	1		R
	R	3	R
1			1
	0		

	2	R	2
1		R	2
R			
	1	0	

1			0
	R	2	
2			R
R	1	1	1

0	1		1
	2	R	
2	R		2
2	R	R	1

2	2	1	
R	R		
	2		R
			1

	0		R
		2	2
1		2	R
1	R		

R		1	
1		R	1
1			1
R		0	

			1
	1	2	R
2	R		1
	R	2	

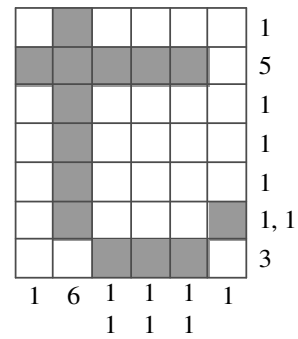
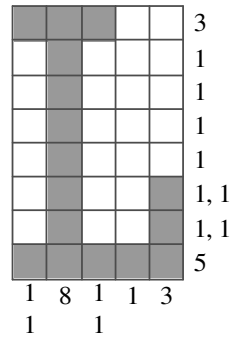
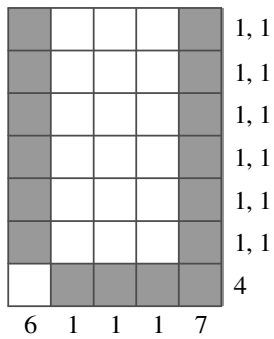
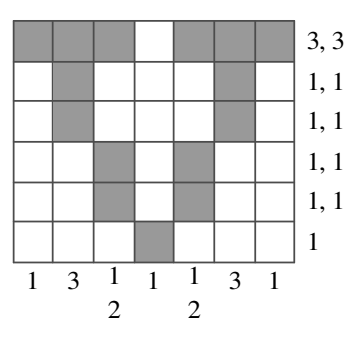
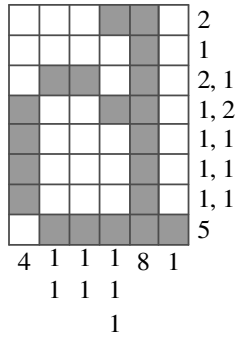
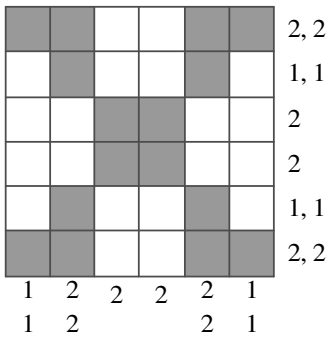
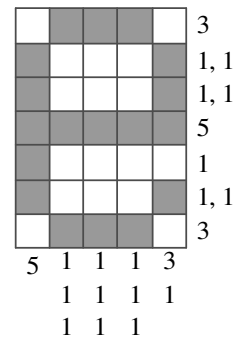
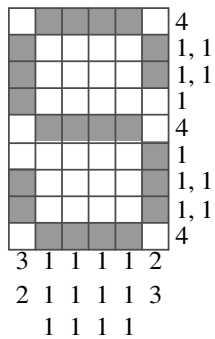
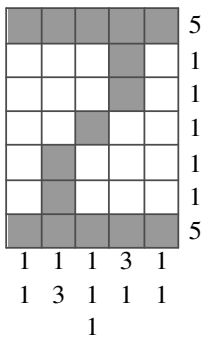
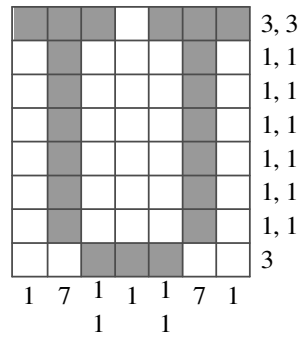
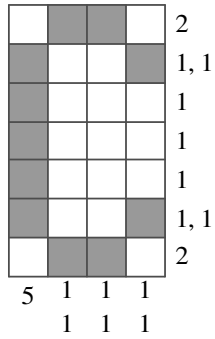
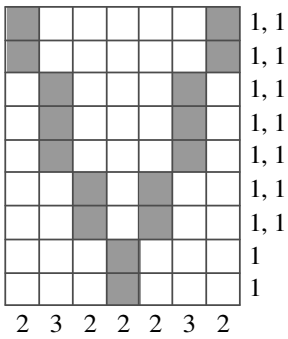
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	0		R
			R
0		1	1

	1	R	
0			1
	0		
		1	R

	R		0
2	R	3	
			R
	0	2	R

R		1	R
	1		1
	1		0
	R	1	

Gobelini



Križne vsote

		13	3		
7	5	2	8		
11	8	1	2	7	
		9	5	4	
		4	1	3	

		7	14		
6	5	1	3		
7	2	4	1		
		11	9	2	

		5	14		
13	4	9	12		
9	1	3	5		
		9	2	7	

		9	24		
10	2	8	4		
19	7	9	3		
		8	7	1	

		4	20		
6	1	5	14		
15	3	7	5		
		17	8	9	

		17	4		
11	8	3	19		
13	9	1	3	9	
		8	7	1	
		17	9	8	

		16	10		
16	9	7	11		
11	7	1	3		
		10	2	8	

		10	12		
6	1	5	18		
24	9	7	8	17	
		14	6	8	
		13	4	9	

		3	20						
9	1	8			3	7			
7	2	5	13	22	1	2			
		12	7	5	7	13	6	2	5
			16	8	1	7			
				15	6	9			

		12	16				
15	8	7	6				
18	4	9	5	22			
		8	1	7	15		
			14	6	8		
			16	9	7		

		8	19				
12	3	9	4				
15	5	7	3				
		4	3	1			

		6	16				
9	2	7	15				
16	4	9	3	11			
		15	7	8			
		8	5	3			

Križni produkti

	18	40	
36	9	4	
	2	5	4
		14	
		2	7

	12	24		
24	6	4	36	
48	2	6	4	20
		36	9	4
			10	5
			30	6
				5

	30	12		
15	5	3	15	
72	6	4	3	
		20	5	4
			18	3
			63	9
				7

	10	268		3456	18
18	2	9	6	2	3
15	5	3	54	9	6
		432	6	9	8
		840	7	6	4
6	3	2	24	6	4

	15	72		14	512
30	5	6	6	2	3
12	3	4	504	7	8
24	3	8	92	28	7
30	4	7	108	3	8
28	4	7	252	4	7
30	5	6	24	27	3
	64	8	4	2	
	18	3	6		

	30	68			
42	6	7			
20	5	4			
		45		16	8
	30	6	5	135	3
			56	9	8
			432	9	8
			35	7	5

	36	40	42
140	4	5	7
432	9	8	6

	56	3880		3184	36
32	8	4	27	3	9
35	7	5	21	8	4
		126	2	7	9
		648	9	3	4
	3				6
24	3	8		42	6

	56	126	
42	7	6	
144	8	3	6
		21	7
			3

	12	21	72
336	6	7	8
54	2	3	9

	56	84		27	40
21	7	3	15	3	5
56	8	7	162	9	3
56	4	6	1728	18	9
63	7	9	224	8	7
32	8	4	54	9	6
	64	2	8	4	
	40	8	5		

	16	08		36	10
72	8	9	27	9	3
8	2	4	64	4	2
		6	336	12	5
21	7	3	252	168	4
		3	2	30	5
6	3	2	72	14	7
		378	7	9	6
		48	6	8	

Labirint na kocki

		17	16	14	13
		3	10	11	12
		2	9		
		1	8		
4	5	6	7		
19	20	21	24		
		22	23		
		18	15		

		24	14				
		23	15				
5	22	21	20	16	13	7	6
4	3	2	19	17	12	8	9
				18	11		
				1	10		

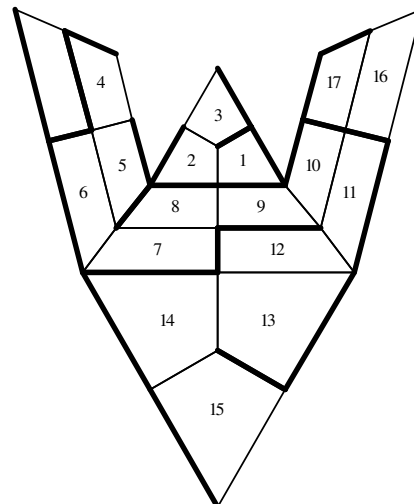
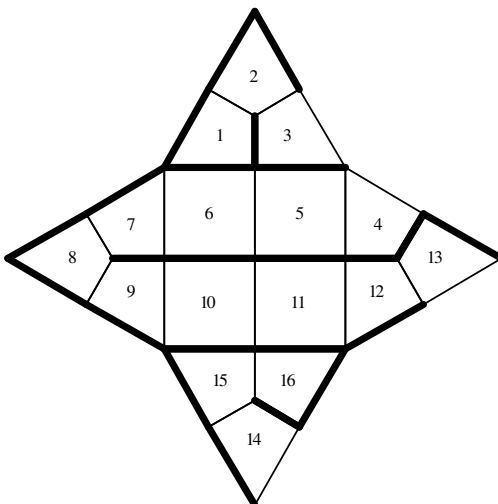
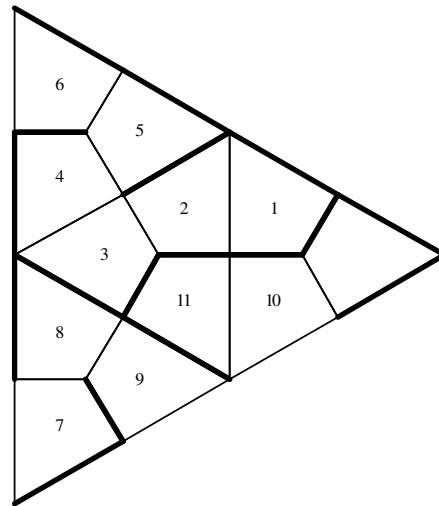
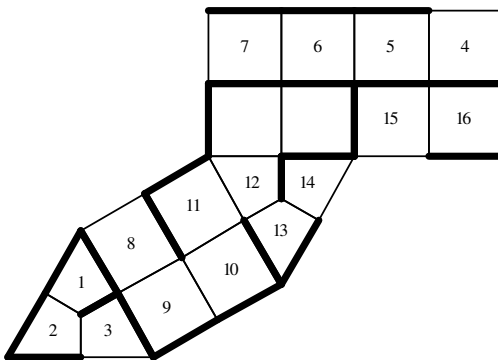
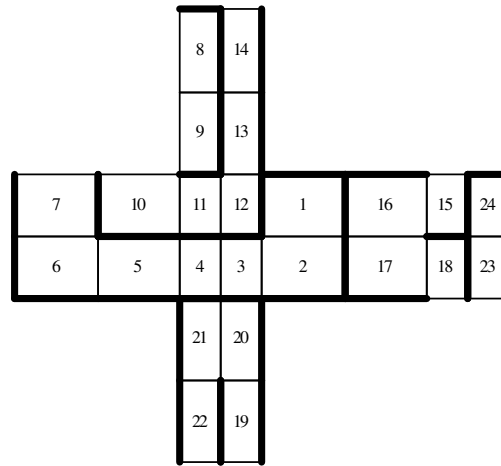
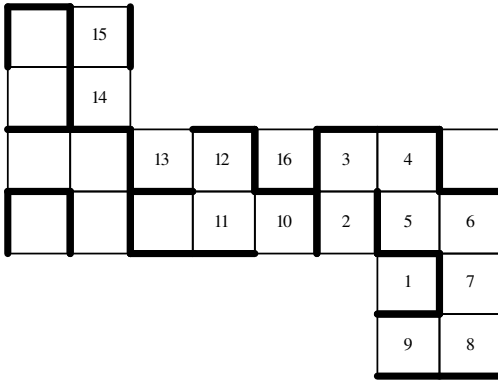
				20	15		
				19	16		
13		21	22	18	17		14
12	8	7	6	4	3	2	11
				5	1		
				9	10		

		21	16				
		14	15				
13			17	18	19	20	12
10	9		4	3	2	1	11
						6	7
						5	8

				20	15		
				19	16		
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11	10	8	7	6	3	2	13
				5	4		
				9	12		

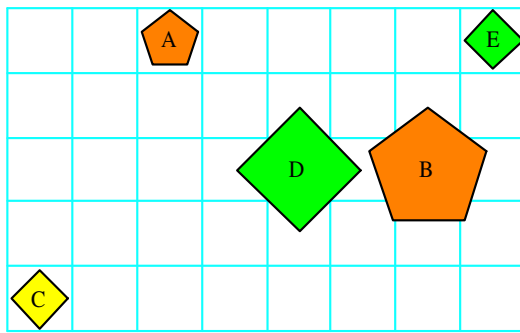
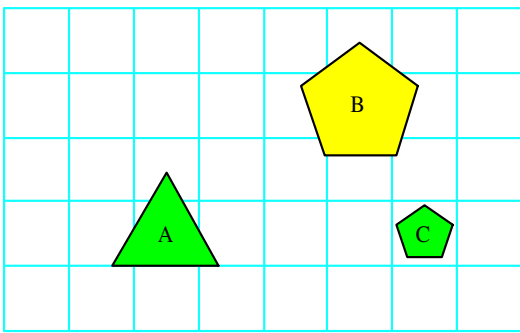
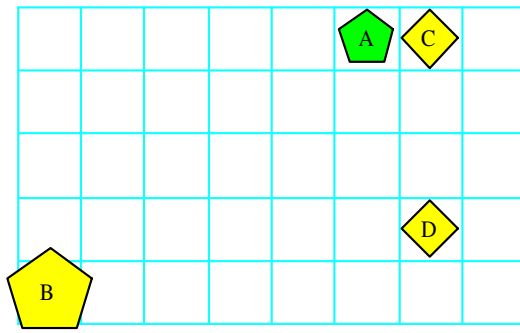
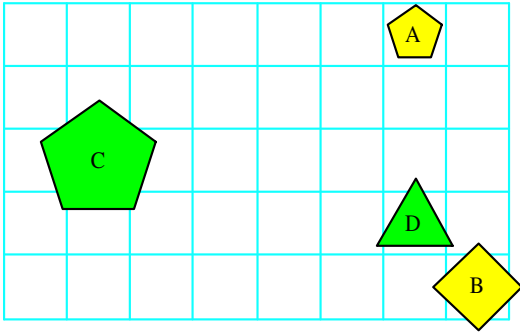
				3	23		
				21	22		
11	4	2	1	20		13	12
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				17	16		
				7	8		

Labirinti na enostavnih poliedrih

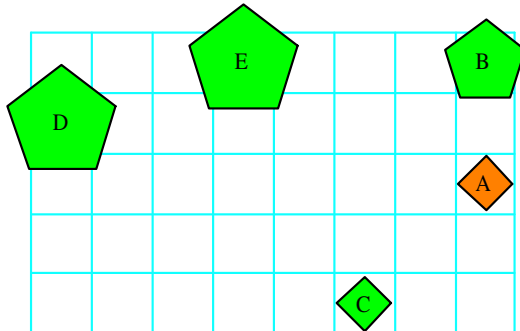
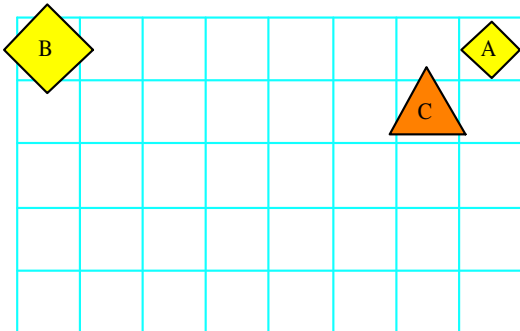
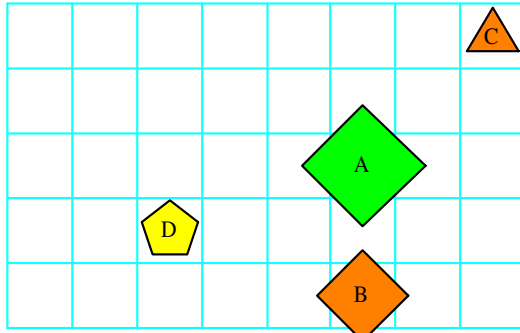
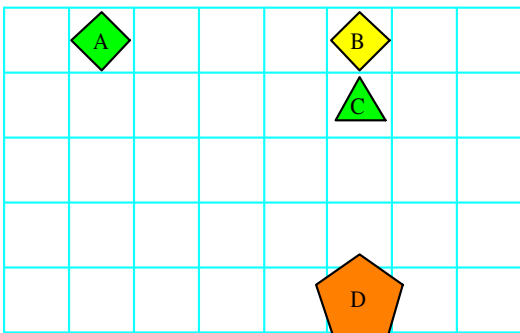


Imena likov

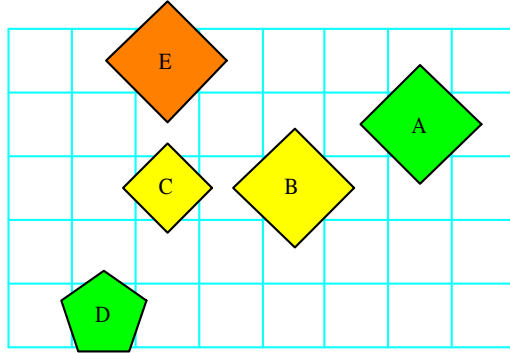
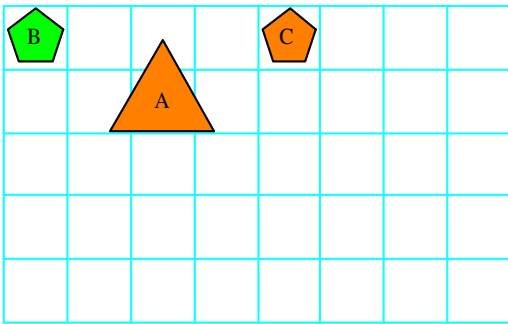
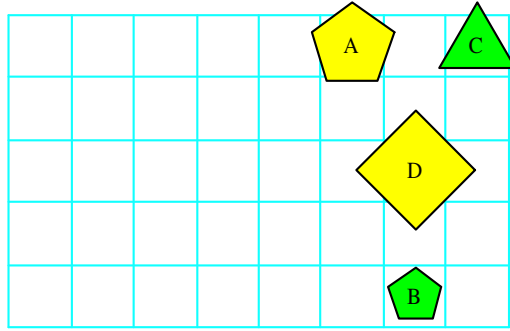
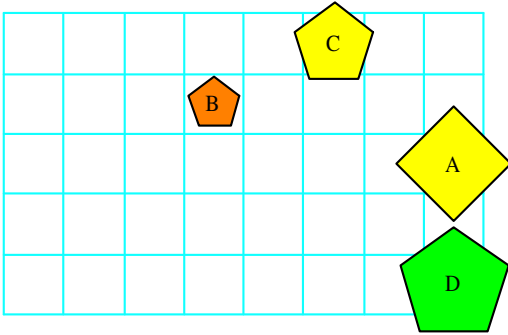
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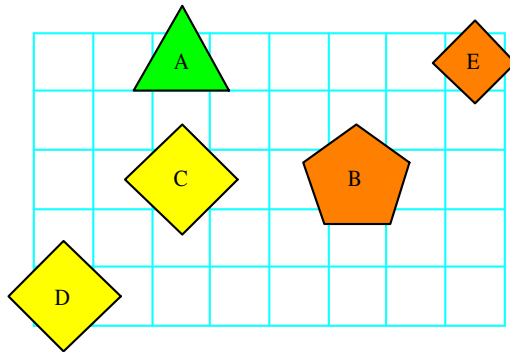
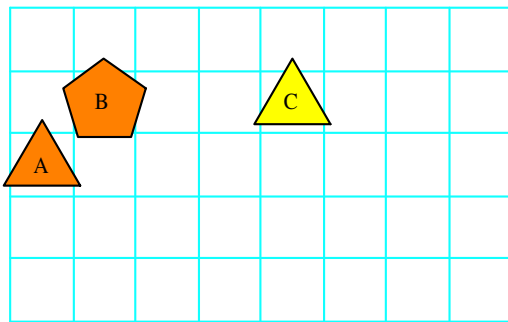
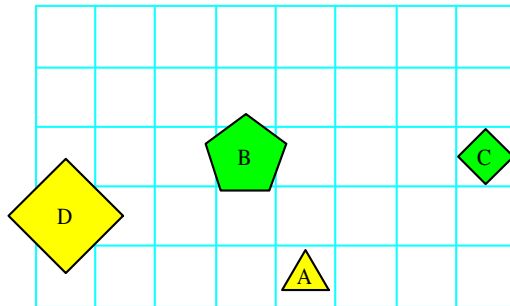
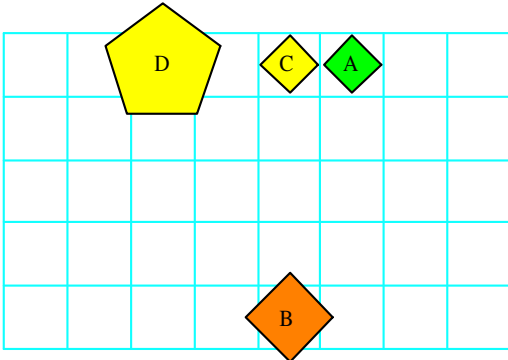
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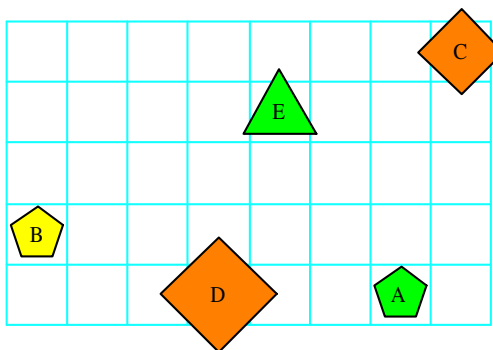
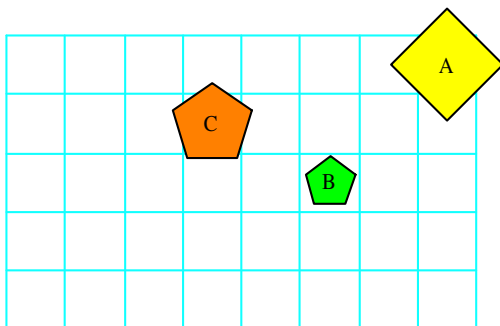
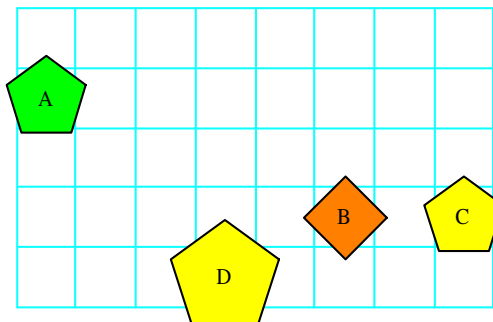
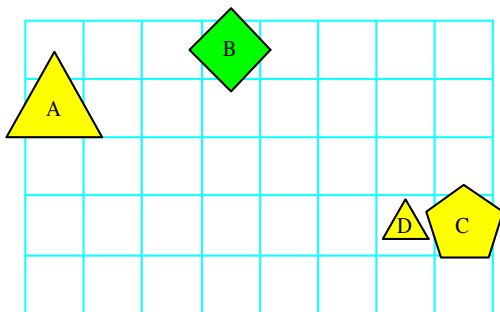
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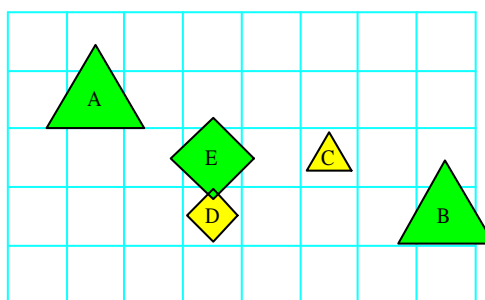
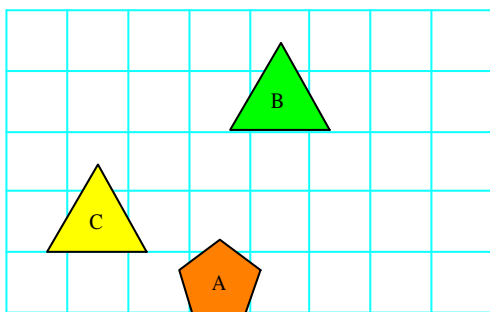
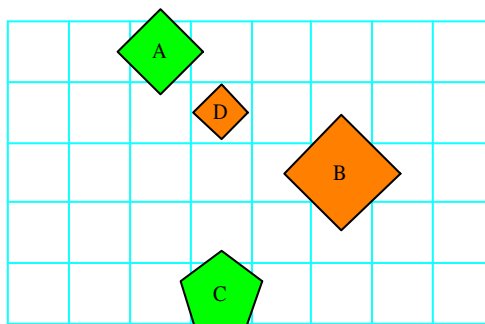
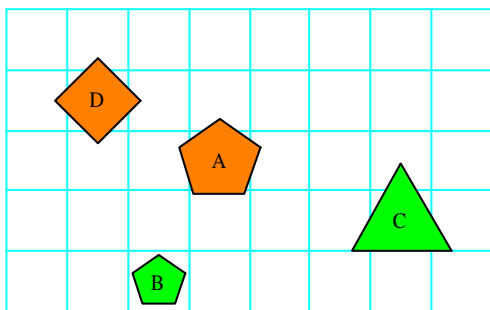
4.



5.



6.



Grupe

Sličice na drugi sliki moramo zaporedoma označiti:
 {6, 14, 10, 12, 8, 11, 3, 7, 4, 15, 13, 16, 1, 5, 2, 17, 9}

Linearne grupe:

- a) {6, 7, 2, 1, 5, 4, 3}, {2, 7, 1, 6, 3, 4, 5}
- b) {5, 3, 6, 4, 2, 1, 7}, {6, 1, 2, 4, 5, 3, 7}

Prostorska predstavljalivost

a)

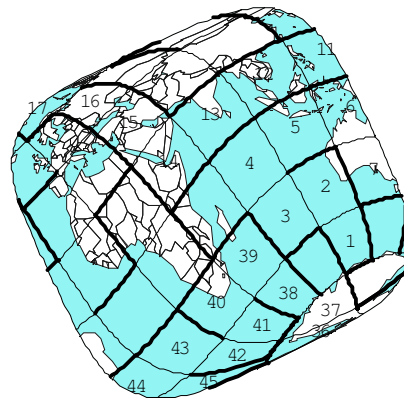
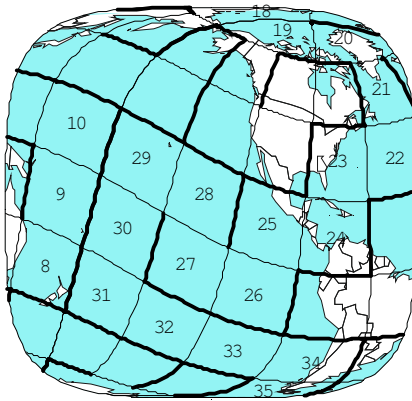
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1	3	5	6
2	2	4	6
3	4	9	5
4	1	6	8
5	5	3	8

b)

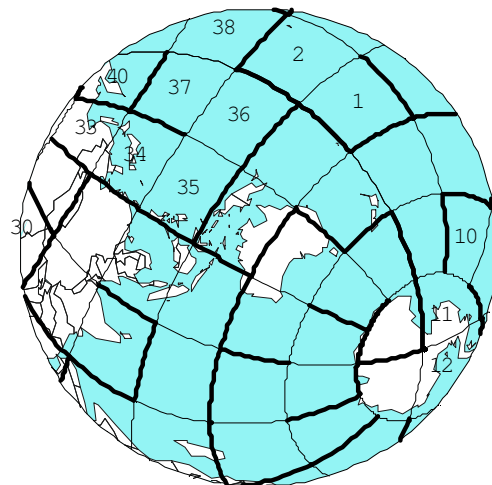
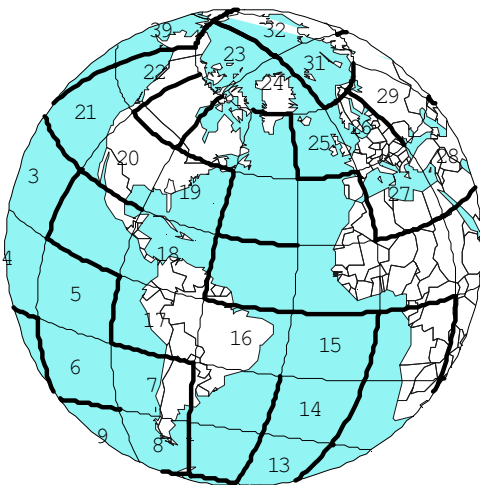
	1	2	3
1	4	7	3
2	1	8	6
3	5	4	6
4	2	1	5
5	1	3	3

Labirinti na zemljevidu

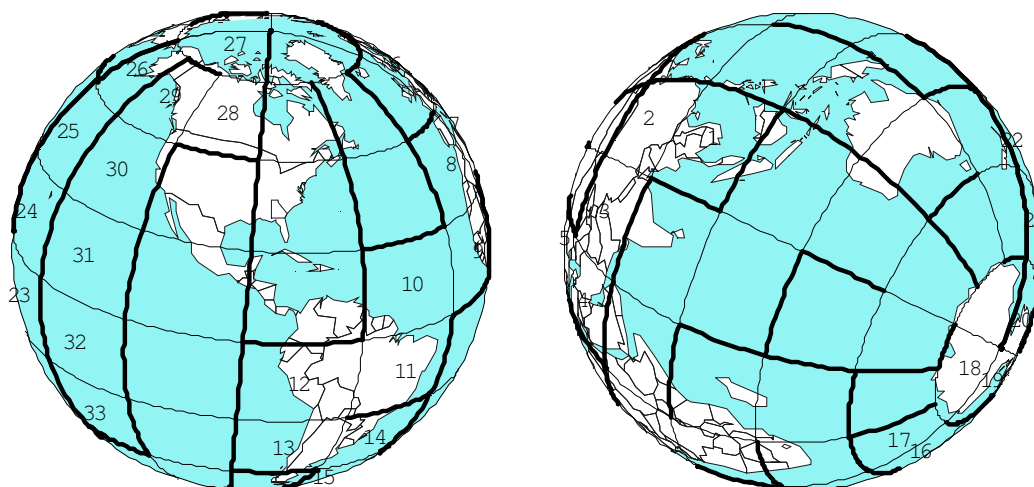
a)



b)



c)



Tekmovanja na spletu

Na medmrežju potekajo tekmovanja iz matematične logike, prostorske predstavljalivosti in matematike na šolskem, državnem in mednarodnem nivoju. Več na naslovu: <http://matematika.fe.uni-lj.si/html/people/izidor/homepage/>

Odstranjene kockice

71 87 52

47 91 84

67 52 80

48 79 79

Kocki določi mrežo

1, 4, 3, 2, 3, 2.

Izdaja: Založniško podjetje **LOGIKA d.o.o.**, Svetčeva pot 11, 1241 Kamnik. Poslovni račun pri NLB: 02312-0016592829. Davčna številka: SI56917309. Podjetje je zavezanec za DDV po zakonu o DDV. Za izdajatelja: *Izidor Hafner*. E-mail: logika@siol.net. Spletna stran: <http://www.logika.si>. Revija *Logika & razvedrilna matematika* je vpisana v register medijev pri Ministrstvu za kulturo pod številko 759. Revijo je sofinanciralo **Ministrstvo za izobraževanje, znanost, kulturo in šport**. Strokovni pokrovitelj: *Inštitut za matematiko, fiziko in mehaniko - oddelek za teoretično računalništvo*.

Glavni in odgovorni urednik: *dr. Izidor Hafner* (<http://mat03.fe.uni-lj.si/html/people/izidor/homepage/>)

Člana časopisnega sveta: *prof. dr. Tomaž Pisanski in Darjo Felda, prof. Recenzent: Vilko Domajnko, prof.*

Sodelavci: *mag. Urša Demšar, dr. Gregor Dolinar, Monika Kavalir, dr. Meta Lah, Boštjan Kuzman, Teja Oblak, Hiacinta Pintar, Maja Pohar, mag. Katka Šenk in dr. Aleš Vavpetič.*

Oblikovanje: *Ana Hafner*

Jezikovni pregled: *Barbara Janežič Bizant*

Za objavljene prispevke ne plačujemo honorarjev.

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ISSN 2350-532X

LOGIKA & RAZVEDRILNA MATEMATIKA, letnik XXIII, št. 4 od 4, 2013/2014

Elektronska izdaja. Cena revije: 0 €.