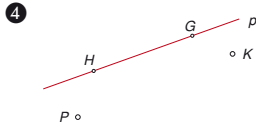
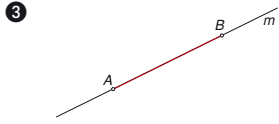




## 5.1 Osnovni geometrijski pojmi

- 1 a)  $AT, \checkmark T, CD$   
b)  $u, t$   
c) Daljica  $CD$  leži na premici  $u$ . Premica  $u$  je nosilka daljice  $CD$ .
- 2  $AB, BC, CD, BD, DE, EJ, DJ, JI, IH, JH, GF, FE, EH, GE, GH, FH$



$H \in p; G \in p; P \notin p; K \notin p;$

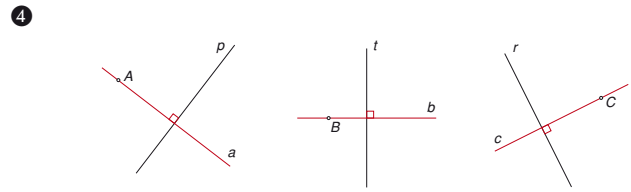
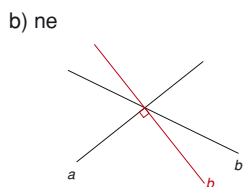
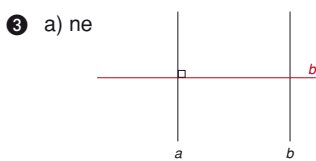
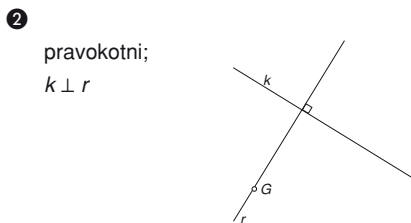
5

	A	B	C	D	E	F	G	H
premica a			✓	✓	✓			
premica b	✓	✓			✓			
premica c						✓	✓	

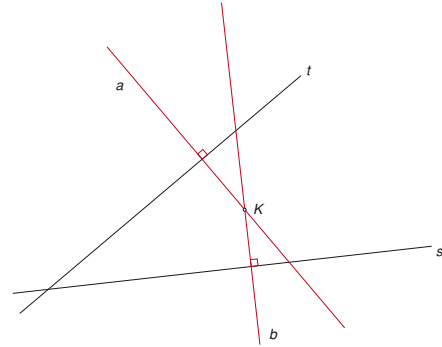
## 5.2 Odnosi med geometrijskimi elementi v ravnini

1

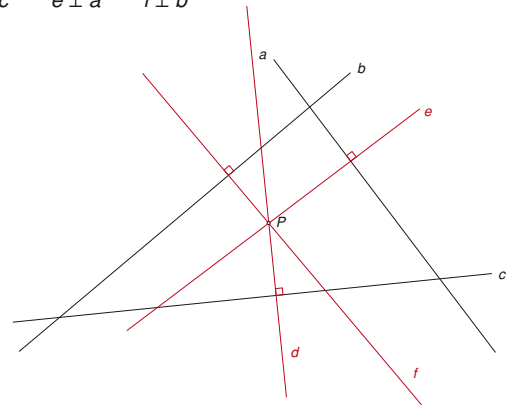
	a	b	c	d
A	∉	∉	∉	∉
B	∉	∉	∉	∉
C	∉	∉	∉	∉
D	∉	∉	∉	∉
E	∉	∉	∉	∉
F	∉	∉	∉	∉
G	∉	∉	∉	∉
H	∉	∉	∉	∉
I	∉	∉	∉	∉
J	∉	∉	∉	∉
K	∉	∉	∉	∉
L	∉	∉	∉	∉



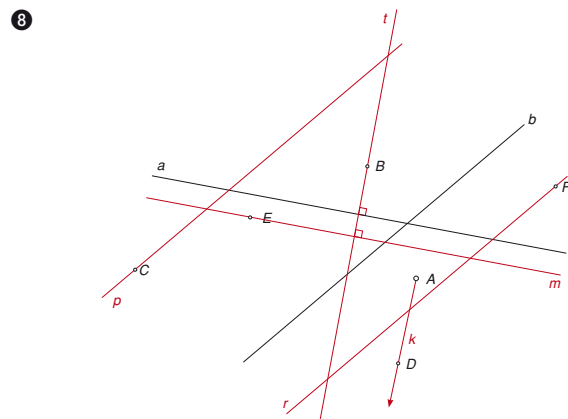
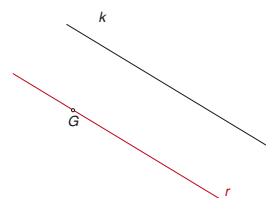
- 5  $K \notin t \quad K \notin s \quad K \in a \quad K \in b$   
 $t \perp a \quad s \perp b$



- 6  $d \perp c \quad e \perp a \quad f \perp b$

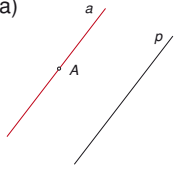


- 7 vzporedni;  $r \parallel k$





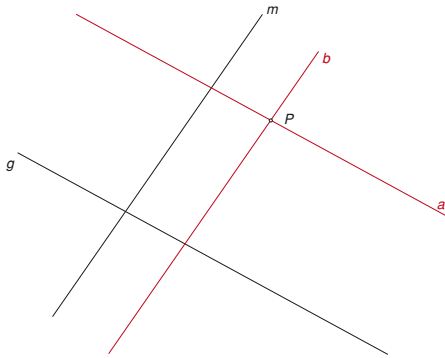
9 a)



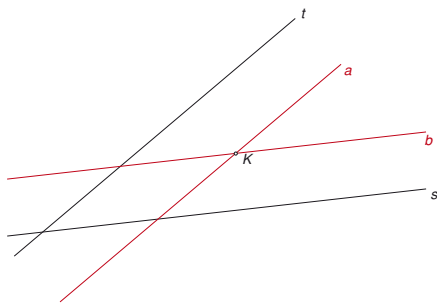
b)



10

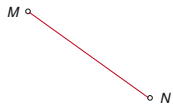


11  $K \in a$   $K \in b$   $t \parallel a$   $s \parallel b$

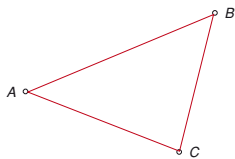


## 5.3 Razdalja med točkama in skladnost daljic

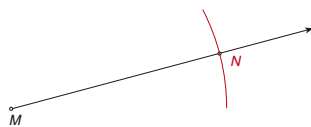
1 Ocena: 5 cm Izmerjena radalja: 4 cm



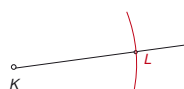
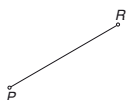
2 a) 44 mm b) 54 mm c) 38 mm



3  $EF \cong MN$



4 a) 32 mm; b) 32 mm, DA, nešteto

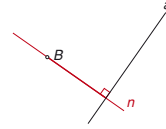


5 a) ne b) da  $PR \cong ST$

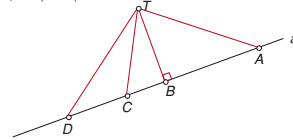
6 a)  $AB \cong BC \cong CD \cong AD$   
b)  $BC$

## 5.4 Razdalja med točko in premico

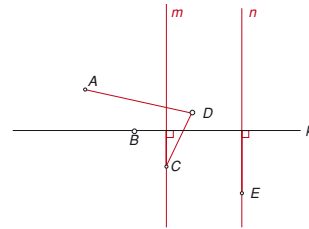
1  $d(B,a) = 31$  mm



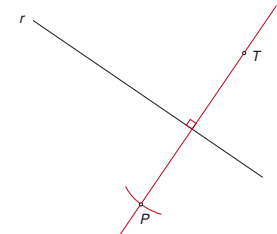
2  $|TA| = 61$  mm  $|TB| = 35$  mm  $|TC| = 41$  mm  $|TD| = 65$  mm  
 $d(T,a) = |TB|$



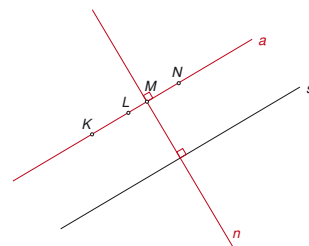
3  $d(E,p) = 27$  mm  $d(B,p) = 0$  mm  $d(C,p) = 20$  mm  
 $|CD| = 43$  mm  $|AD| = 71$  mm



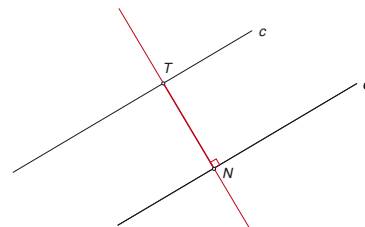
4  $d(T,r) = 24$  mm



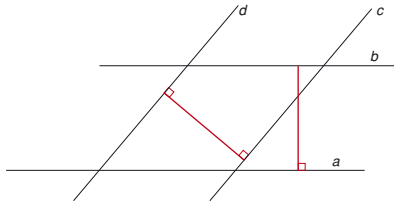
5 da; na premici 'a', ki je vzporedna s premico 's'



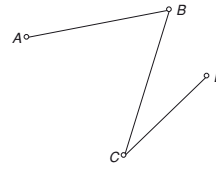
6  $d(c,d) = 2,6$  cm



- 7  $a \parallel b$   $c \parallel d$   $d(a,b) = 28 \text{ mm}$   $d(c,d) = 28 \text{ mm}$



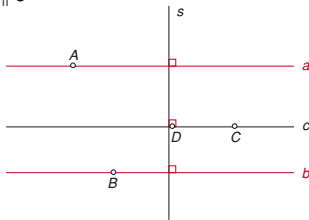
- 8  $d(A,B) = 38 \text{ mm}$   $d(B,C) = 40 \text{ mm}$   $d(C,D) = 30 \text{ mm}$



## 5.5 Še nekaj geometrijskih nalog

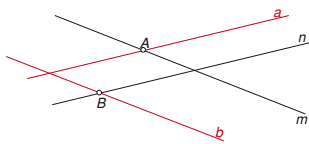
- 1 a) Premica je **neomejena** ravna črta.  
 b) **Najkrajša** zveznica dveh točk je daljica.  
 c) Premica je neomejena **ravna** črta.  
 č) Krajišči daljice  $AB$  sta točki, ki **pripadata** daljici.  
 d) Presečišče dveh premic je točka, ki **pripada obema** **izmed** sekajočih se premic.  
 e) Nosilka daljice  $CD$  je premica, **na kateri leži dana daljica**.  
 f) Krajišči daljice označimo z **velikimi** tiskanimi črkami, premice pa z **malimi** tiskanimi črkami.

- 2  $a \parallel b \parallel c$

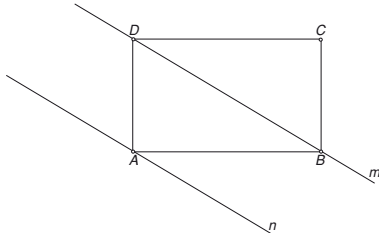


- 3 a) P b) P c) N č) P d) N

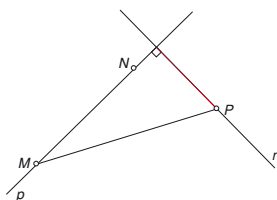
- 4  $A \in m$   $a \parallel n$   $B \in n$   $b \parallel m$   $A \in a$   $B \in b$



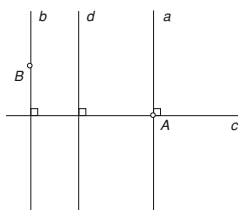
- 5  $m \parallel n$



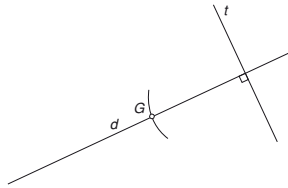
- 6  $d(M,P) = 50 \text{ mm}$   $(P,p) = 23 \text{ mm}$



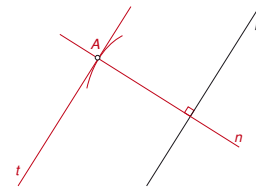
- 7 Možnih je več rešitev, prikazana je ena od njih



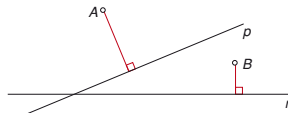
- 9



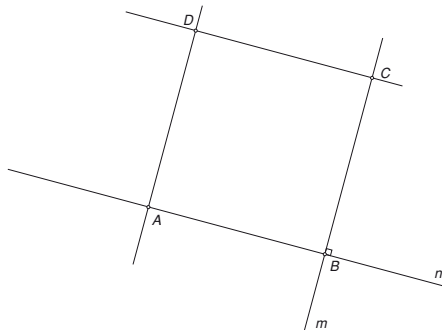
- 10



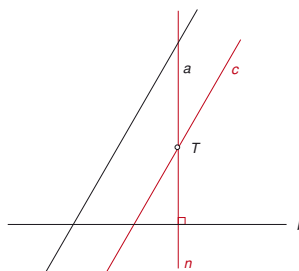
- 11  $d(A,p) = 17 \text{ mm}$   $d(B,r) = 8 \text{ mm}$



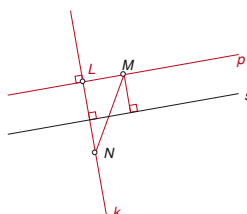
- 12 vzporedni; razdalji sta enaki



- 13  $a \parallel c$   $b \perp n$   $T \in c$   $T \in n$



- 14 a)  $M \in p, p \parallel s$  b)  $N \in k, k \perp s$  c)  $p \cap k = \{L\}$   
 č)  $d(M,N) = 22 \text{ mm}$  d)  $d(M,s) = 10 \text{ mm}$



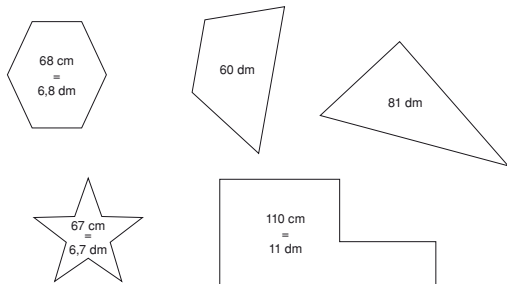
- 15 a) c) d) e) f)



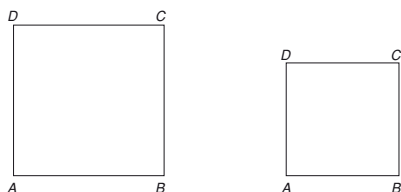
## 6.1 Dolžina

- 1  $|AB| = 45 \text{ mm}$      $|CD| = 28 \text{ mm}$      $|EF| = 40 \text{ mm}$   
 $|GH| = 65 \text{ mm}$      $|IJ| = 33 \text{ mm}$   
 $CD < |IJ| < |EF| < |AB| < |GH|$

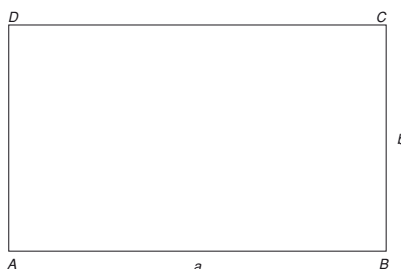
2



- 3  $315 \text{ cm} - 3,15 \text{ m}$      $2,4 \text{ dm} - 24 \text{ cm}$      $31,5 \text{ m} - 31500 \text{ mm}$   
 $0,24 \text{ km} - 24000 \text{ cm}$      $3,15 \text{ dm} - 0,315 \text{ m}$
- 4  $312 \text{ mm} - 68,8 \text{ cm}$      $6,2 \text{ dm} - 380 \text{ mm}$      $0,82 \text{ m} - 18 \text{ cm}$   
 $72 \text{ cm} - 2,8 \text{ dm}$      $4 \text{ dm} - 600 \text{ mm}$      $0,0009 \text{ km} - 0,1 \text{ m}$
- 5  $912 \text{ mm}$      $0,081 \text{ km}$      $93,7 \text{ cm}$      $820 \text{ cm}$   
 $7900 \text{ mm}$      $97000 \text{ mm}$      $1111 \text{ cm}$
- 6 Rok potrebuje 21,64 m vrvi.
- 7 Največji obseg ima lik C ( $\sigma = 136 \text{ mm}$ ), najmanjši pa lik A ( $\sigma = 104 \text{ mm}$ )
- 8 a)  $a = 4 \text{ cm}$     b)  $a = 3 \text{ cm}$



- 9  $a = 10 \text{ cm}$ ,  $b = 6 \text{ cm}$



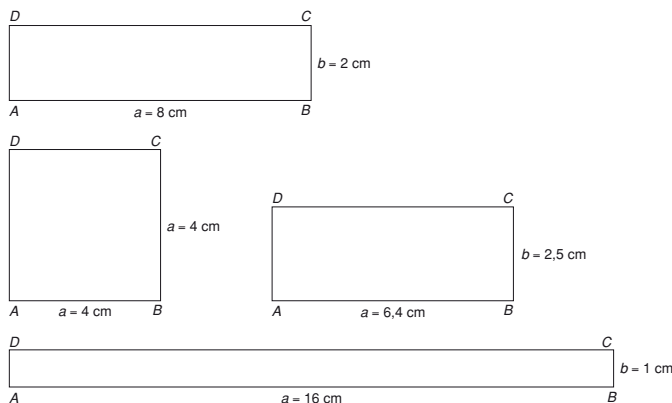
- 10 A — 2    B — 3    C — 1
- 11 a)  $b = 18 \text{ cm}$     b)  $b = 0,6 \text{ dm}$     c)  $a = 3,3 \text{ dm}$   
 č)  $a = 0,08 \text{ m}$

## 6.2 Ploščina

- 1 Največjo ploščino ima pravokotnik oziroma kvadrat B ( $900 \text{ mm}^2$ ), najmanjšo pa pravokotnik C ( $576 \text{ mm}^2$ )
- 2 Obstaja več možnosti, glede na velikost izbranega lista.
- 3 A:  $p = 8,25 \text{ cm}^2 = 825 \text{ mm}^2$     B:  $p = 7 \text{ cm}^2 = 700 \text{ mm}^2$
- 4 a)  $p = 9 \text{ cm}^2$     b)  $p = 30,25 \text{ cm}^2$   
 c)  $p = 0,16 \text{ dm}^2$     č)  $p = 10,24 \text{ m}^2$
- 5  $12 \text{ cm}^2 + 28 \text{ cm}^2 - 0,16 \text{ dm}^2$  in  $1800 \text{ mm}^2 + 6 \text{ cm}^2$   
 $33 \text{ dm}^2 + 16 \text{ cm}^2$  in  $4800 \text{ cm}^2 - 14,84 \text{ dm}^2$   
 $0,52 \text{ m}^2 - 43 \text{ dm}^2$  in  $7 \text{ dm}^2 + 200 \text{ cm}^2$
- 6 a)  $\sigma = 18 \text{ cm}$ ,  $p = 18 \text{ cm}^2$     b)  $\sigma = 14,2 \text{ dm}$ ,  $p = 11,28 \text{ dm}^2$   
 c)  $\sigma = 100 \text{ dm}$ ,  $p = 576 \text{ dm}^2$     č)  $b = 2 \text{ dm}$ ,  $p = 12 \text{ dm}^2$   
 d)  $a = 27 \text{ dm}$ ,  $p = 324 \text{ dm}^2$     e)  $b = 4,2 \text{ dm}$ ,  $p = 26,46 \text{ dm}^2$

- 7 a)  $N, p_1 > p_2$     b)  $N, p_3 > p_4$   
 c) P    č) =  
 d) <    e) >

8



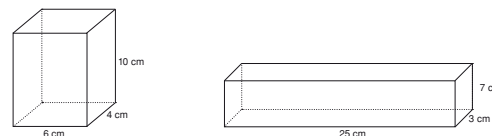
- 9  $\sigma = 29 \text{ cm}$      $p = 36 \text{ cm}^2$
- 10 a) N    b) P    c) P    č) P    d) P    e) N

## 6.3 Prostornina

- 1 a) 27 gradnikov    b) 26 gradnikov  
 2 a) 316 gradnikov    b) 57 gradnikov  
 3

m <sup>3</sup>			dm <sup>3</sup>			cm <sup>3</sup>			pretvorba		
		3	5	1	2				3,512 m <sup>3</sup>		
		3		1	2				3,012 m <sup>3</sup>		
		3			2				3,002 m <sup>3</sup>		
			5	1	2				0,512 m <sup>3</sup>		
					7		8	2	7,082 dm <sup>3</sup>		
4	5						1	5	45,000015 dm <sup>3</sup>		

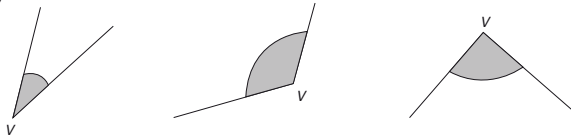
- 4  $3,5 \text{ l} - 35 \text{ dl}$      $3,5 \text{ m}^3 - 3500 \text{ l}$      $3,5 \text{ dl} - 0,35 \text{ l}$   
 $3,5 \text{ dm}^3 - 3,5 \text{ l}$      $3,5 \text{ hl} - 350 \text{ l}$
- 5 a)  $450 \text{ dm}^3 = 450\,000 \text{ cm}^3$     b)  $800 \text{ dm}^3 = 0,8 \text{ m}^3$   
 c)  $15\,000 \text{ cm}^3 = 15\,000\,000 \text{ mm}^3$     č)  $5000 \text{ l} = 50\,000 \text{ dl}$
- 6 a)  $0,0018 \text{ m}^3$     b)  $0,024 \text{ l}$     c)  $0,005 \text{ m}^3$   
 č)  $0,2 \text{ l}$     d)  $0,35 \text{ hl}$     e)  $0,009 \text{ m}^3$   
 g)  $12000,012 \text{ dm}^3$
- 7 >, =, =, <, >
- 8 več rešitev, odvisno od velikosti izbranih škatlic.
- 9 a)



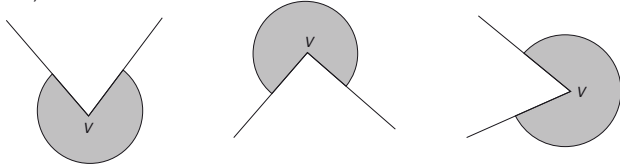
- c)  $P_A = 248 \text{ cm}^2$ ,  $P_B = 542 \text{ cm}^2$   
 č)  $V_A = 240 \text{ cm}^3$ ,  $V_B = 525 \text{ cm}^3$
- 10 a) Vseh možnosti je 8.  
 b) Med naštetimi možnostmi ni kocke, ker 36 ni produkt treh enakih naravnih števil.
- 11 a) Posoda se napolni v 20 urah in 50 minutah.  
 b) To je natanko 2500 kapljic.
- 12 a) Bazen bo do vrha poln, ko bomo vanj nalili 4410 hl vode.  
 b) Bazen se polni 36 ur in 45 minut.
- 13 a) Deževati bi morale 200 ur.  
 b) Na en hektar pade 50 000 litrov dežja.
- 14  $V = 1296 \text{ cm}^3$

## 7.1 Kot

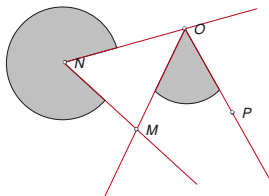
1 a)



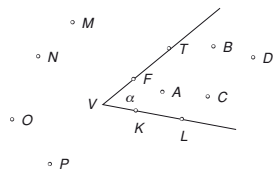
b)



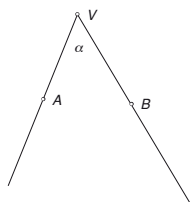
2



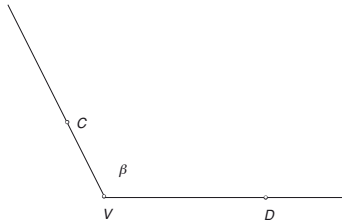
3



4 a)  $\sphericalangle AVB$ ,  $\alpha$ ,  $\sphericalangle V$

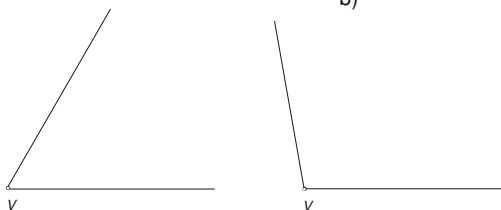


b)  $\sphericalangle DVC$ ,  $\beta$ ,  $\sphericalangle V$

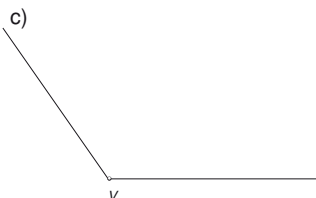


## 7.2 Merjenje in načrtovanje kotov

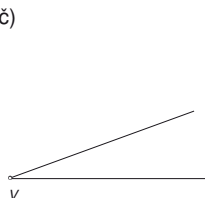
- 1 a)  $62^\circ$  b)  $94^\circ$  c)  $63^\circ$  č)  $125^\circ$   
 2 a)  $\alpha = 101^\circ$   $\beta = 135^\circ$   $\gamma = 72^\circ$   $\delta = 129^\circ$   $\varepsilon = 103^\circ$   
 b)  $\alpha = 128^\circ$   $\beta = 104^\circ$   $\gamma = 115^\circ$   $\delta = 124^\circ$   $\varepsilon = 150^\circ$   $\varphi = 99^\circ$   
 3 a) b)



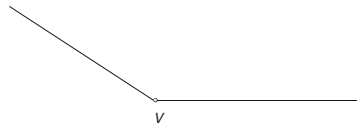
c)



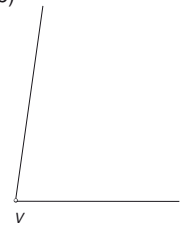
č)



d)



e)

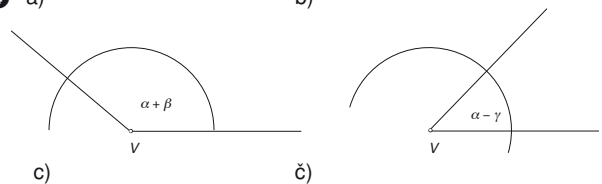


## 7.3 Skladni koti

- 1 Kota v paru merita enako.  
 2 Kota v paru merita enako.  
 3  $\gamma - \lambda$   $\delta - \eta$   $\beta - \varepsilon$

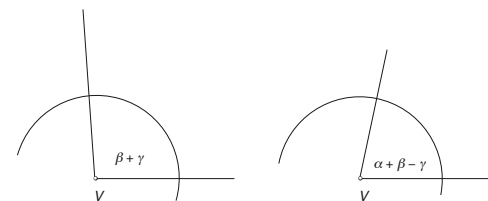
## 7.4 Seštevanje in odštevanje kotov

- 1  $26^\circ = 1560'$   $2437' = 40^\circ 37'$   $1425' = 23^\circ 45'$   
 $125' = 2^\circ 5'$   $10^\circ = 600'$   $2700' = 45^\circ$   
 $11^\circ 15' = 675'$   $180' = 3^\circ$   $135^\circ = 8100'$   
 2 a)  $95^\circ$  b)  $73^\circ$  c)  $45^\circ 46'$  č)  $48^\circ 41'$   
 3 a)  $115^\circ$  b)  $48^\circ$  c)  $73^\circ 21'$  č)  $66^\circ 15'$   
 4 a) b)



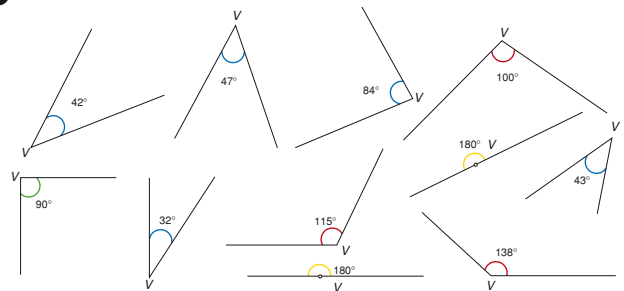
c)

č)



## 7.5 Vrste kotov

1



2

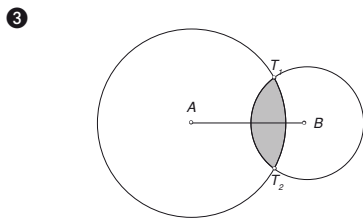
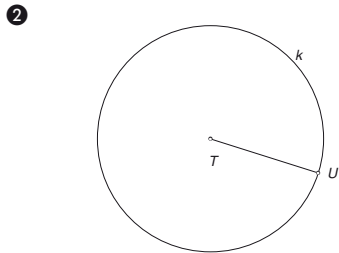
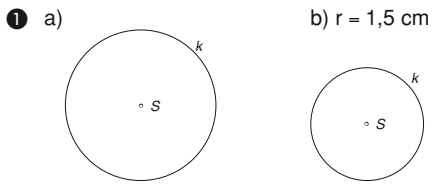
kot	velikost kota	vrsta kota	velikost sokota	vrsta kota za sokot
$\alpha$	$50^\circ$	ostri	$130^\circ$	topi
$\beta$	$90^\circ$	pravi	$90^\circ$	pravi
$\gamma$	$130^\circ$	topi	$50^\circ$	ostri
$\delta$	$51^\circ$	ostri	$129^\circ$	topi
$\varepsilon$	$125^\circ$	topi	$55^\circ$	ostri
$\varphi$	$180^\circ$	iztegnjeni	$0^\circ$	kot 0

3

- a)  $\alpha = 120^\circ$   
 b)  $\alpha = 147^\circ$   $\beta = 147^\circ$   $\gamma = 33^\circ$   
 c)  $\alpha = 80^\circ$   $\beta = 42^\circ$   $\gamma = 138^\circ$   
 č)  $\alpha = 23^\circ$   $\beta = 82^\circ$   $\gamma = 75^\circ$   $\delta = 75^\circ$

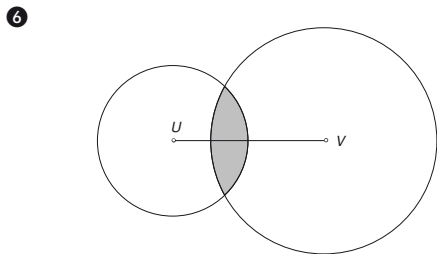
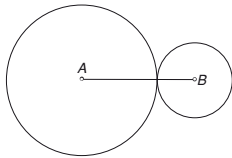


## 7.6 Krožnica in krog

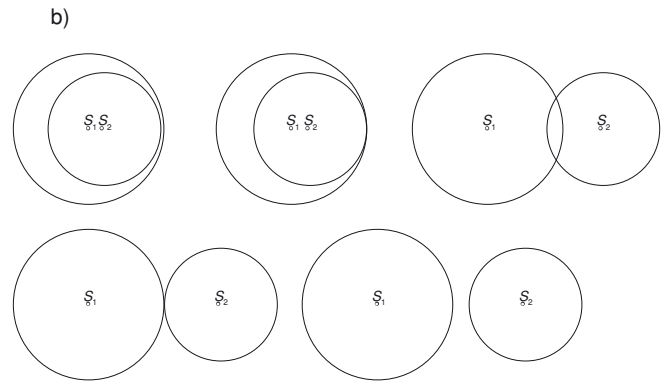
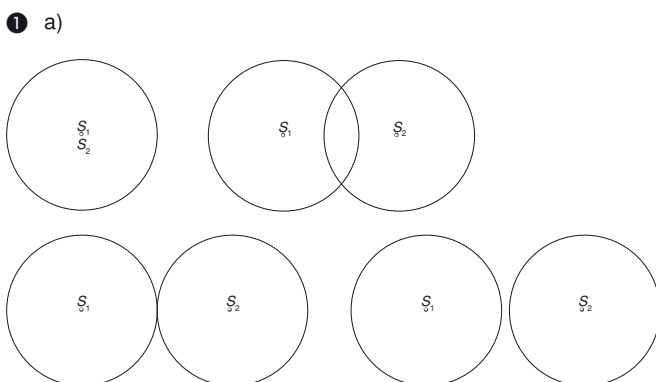


- 4 a) polmer  
c) premer  
d) središče
- b) krožnica  
č) krožnica  
e) krog

5 se dotikata



## 7.7 Dve krožnici

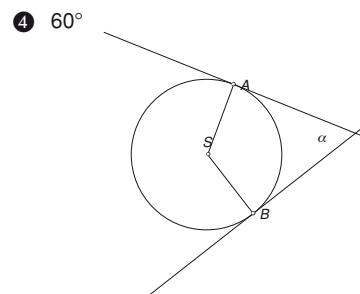
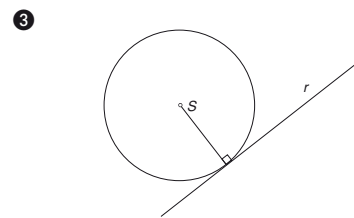
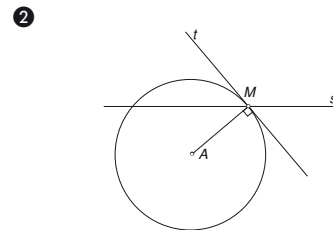


2

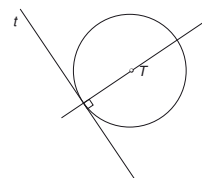
mala krožnica	število skupnih točk obeh krožnic	razdalja med središčema	primerjava po velikosti (vstavi <, > ali =)	medsebojna lega krožnic
A	1	35 mm	$d(S, A) = r_1 - r_2$	se dotikata
B	1	65 mm	$d(S, B) = r_1 + r_2$	se dotikata
C	2	61 mm	$d(S, C) < r_1 + r_2$ $d(S, C) > r_1 - r_2$	se sekata
D	0	32 mm	$d(S, D) < r_1 - r_2$	nimata skupne točke
E	0	79 mm	$d(S, E) > r_1 + r_2$	nimata skupne točke

## 7.8 Krožnica in premica

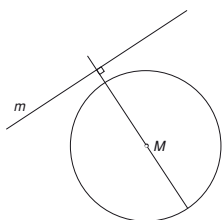
- 1  $h =$  tangenta;  $k =$  mimobežnica;  $l =$  tangenta;  $p =$  sekanta;  
 $r =$  sekanta;  $u =$  sekanta;  $v =$  mimobežnica



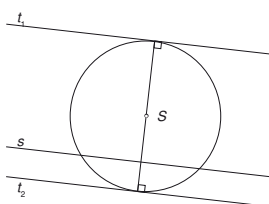
- 5 Središče mora biti od premice oddaljeno natanko 1,5 cm.



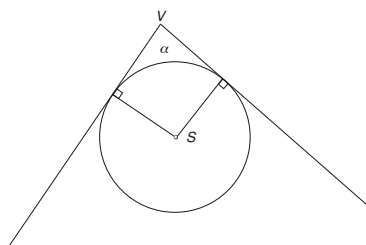
- 6 Središče mora biti od premice oddaljeno več kot 2 cm.



- 7

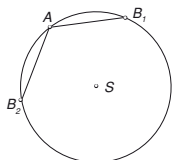


- 8

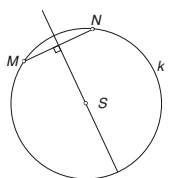


- 9 Najdaljša tetiva (MN) je enaka premeru.

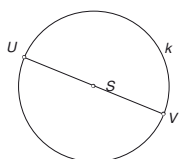
- 10 2 rešitvi



- 11

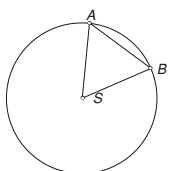


- 12

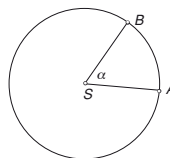


## 7.9 Krožni lok in krožni izsek

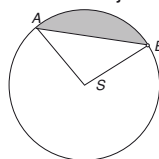
- 1 Tetiva meri 26 mm.



- 2 Središčni kot meri  $60^\circ$ .







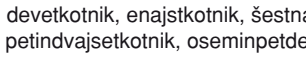






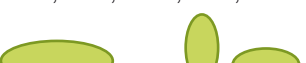
- 3 Ta množica točk je krožni odsek ( $\alpha = 95^\circ$ ).



- 4 Točke določajo tetivo.

- 5 Večji kot je središčni kot, daljši je lok.

## 7.10 Vzorci

- 1 a)  ,   
 b)   
 c)   
 č)   
 d) devetkotnik, enajstkotnik, šestnajstkotnik, petindvajsetkotnik, osemindvajsetkotnik  
 e)   
 f) desetkraka zvezda, dvanajstkraka zvezda, sedemnajstkraka zvezda, šestindvajstkraka zvezda, devetindvajsetkraka zvezda  
 g)   
 h)   
 i)   
 j)   
 k)   
 l) 
- 2 a) 15 krogcev, 28 krogcev, 78 krogcev  
 b) 25 krogcev, 49 krogcev, 144 krogcev

## 8.1 Zbiranje in prikaz podatkov

- 1 b) Najraje imajo belo barvo.  
 c) Najmanj učencev ima najraje oranžno barvo.
- 2 a) Najraje imajo nogomet.  
 b) Igre z žogo ima najraje 25 učencev. (žogo ima tudi tenis)  
 c) Vodne športe ima najraje 8 učencev.  
 č) Za konjenišstvo se navdušujejo 3 učenci.