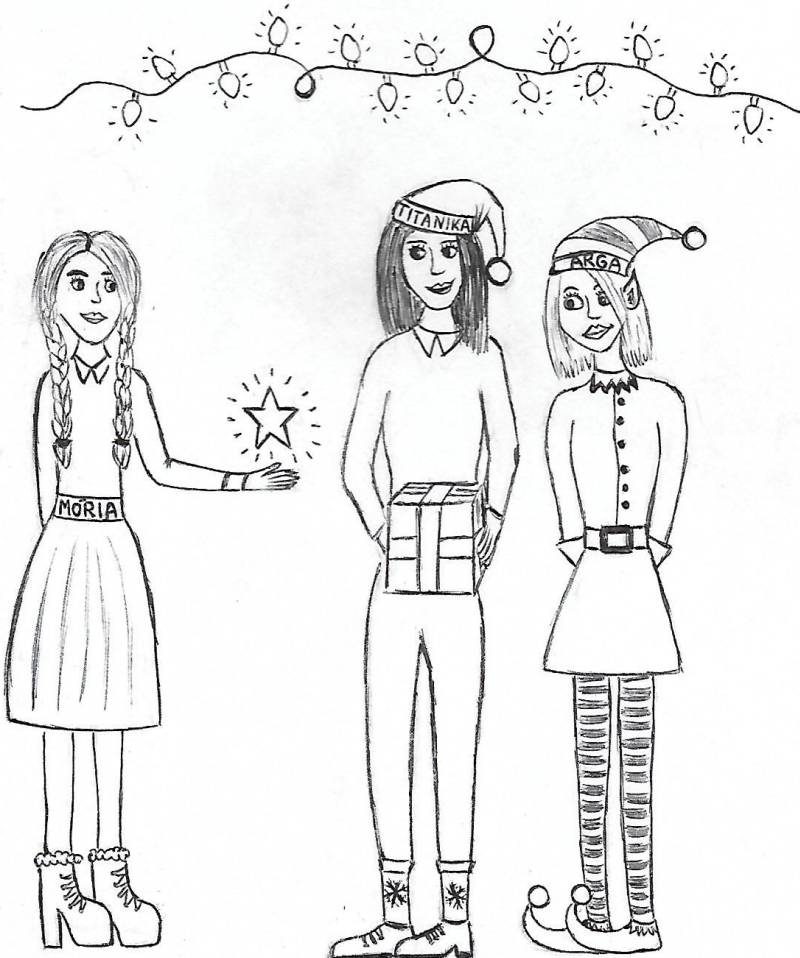


MATIK



Ahojte!

? qP-s q MATIK- UC seC^C<- ^-\ S XSz%dT S Wf/Sf- Y4b q@Sb\ g>cb sS^-
 , S^b<C CYzC\ -zC@ H\ ebsY^ - f\ ^Csz-f ^S S - Wb c-W >- Wb zb <CY
 @be- @G , UVGy eq+@S%S ~ <- @fCq\ S-s^CP~ ^\ ebc-sC ^C@becf Yb>z-W
 f-s <-s^eC C-seb \ %of< bdpf \ S qC C^S \ S- Wb C^z-aj S ^- Ue \ S qC S C\ S
 - f^CebSY@b\ q @Cf sY@^ \ ebq @\ i] C \ Yb < f-s \ C b c- Wf eb f^W
 -U^ - f^z C^ s szqC^S G , WszC- YC^CzqC Yf - <P<CzC^s szqz^ ~ sWqz-W
 f^c S~ < ^-s 4-@Cz\ < <-szP^ ^- zq @S^b\ rzq\ -Wb [- fSW-4C>b Wbq\
 UC fS < S^H^S S C t q

, - S \ Sb f-^ fC@ <SMATIK-

Ako bolo

Lomihlav

d s Ys- @z-\ { Ccci - f eqCszbq<P>Wbq ^\ ebsWzWb K%o ^-<S \ > , YUbf->
 sSeqS Y ^- W<CY <P { _vEsCW^@<-s - S - <\ Cq sfbUC \ -zC \ -zS-W - YLS-W
 s-Pbe^bszSIC E f^c - zfbqY^ ^ <P z \ bf <b f Czw<P Wb^c ^ r YbC^sWi dqf \ Sszb
 b4s- @S z \ < 3- UVWVU| Cef 3q zSY fCzCs^C<- ^S Ss- ^- @q-P \ Sszb @bsz- Yz \
 < 3Cq^bYWfCU|c f dqC b f C- 4q^<bf \ C@ S^ < sWYS @b \ -<S z \ K%o ^-<S >
 , YUbfUCi
 ; CWbf ebq @C <- @^S YP s qC C^S \ S- YC- UHzW%o bs - C^ - @CzC^ - ^- CU
 szq^VC \ - zSWszqb\ i sWf sCWSS Xb\ SPY fi
 , Czw\ f\ zC@ <- c-s y-WUC G>f - <b\ sqC^CLq z~YUC C- @ H\ G C-U
 4-@ <SqWSeq@CzC<-s - S f z Wb\ PbU^b\ ebzG

Ako bude

Vianočný Maxiklub

, S^b<C s ~ ^C4C eC^C q <PYb 4Y S > ^b fS^bc^ eq+@S%eqSP-@-U CzC
 sWqCf, WeqC \ -zC^ -@z \ >cb q4S seqCeq+@S^bf \ fb^ \ c-sb \ >^Cf-Q
 P-UC<-c- eqC \ - bszq-fC^ sb4bz^CUSPbebb4C@S ^- W @bqC^b\ [- fSW-4CF
 rzqz^C C S- ||i c| i b c J (Ef \ Ssz^bszSrTrdc_ ^- dG } dT >TCS^ ^-I>Vb S G
 a W C s C4- ^G-4-@S C @b^Ss - UfS^bc^ ^-Y@ - ^CJW HU U@b> ~qSC
 s- < @C g

Vzorové riešenia 2. série úloh zimného semestra



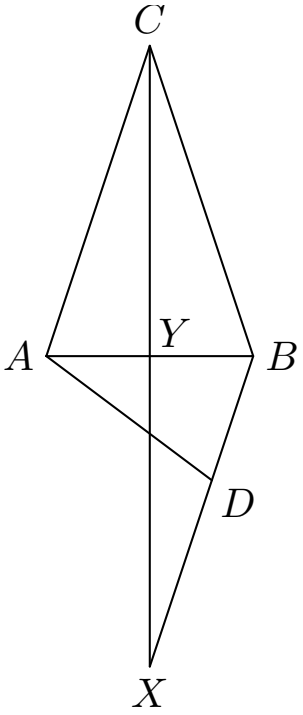
beq fb f- S [- z [- sq^- > V ~ 4b G q4~ Y - ? - ^b a ^@
^- Wq USC qC C^S = V - qYT- W4q- W [- qS \ SY - W

Zadanie

[Y e W \ - Y z f - q q f ^ b q \ C ^ ^ P b z p U P b Y W A B C s b < - W @ b - A B - b 4 s Q
P b \ 1 2 i 3 b @ D s ^ - < P @ - f b e - q ^ U e b Y q f S C ~ q C ^ U e q \ W - A B - W 4 b @
C > e q f b \ z p U P b Y W D B A U e b @ 4 ^ s z p U P b Y W \ A B C i , W z p U P b Y W
A B C < 4 b @ C e q z ^ - e q \ W B D f 4 b @ C X i , W U b 4 s - P z p U P b Y W X B C m

Riešenie

] - U e q f s S ~ q 4 \ C ^ - e q > e q f b \ ^ U e z - f W o o
< 4 b @ ; =
d b x q C s ^ - z p U P b Y W o X B Y - C B Y i V G y C z p l Q
~ P b Y W A B C U e b @ 4 ^ s z p U P b Y W \ D B A > z W
^ A B C U q f f ^ - W f c W - W ^ D B A i ^ C Y B U q f f Q
^ - W f c W - W ^ X Y B > - z b _ E s z - e b f > e q z b C
f W C Y U W X - ^ - s z q ^ ~ A B i r z q ^ - Y B U
s e b Y q ^ - e q c b 4 z p U P b Y W o W G y C - U - P Y o W b q
< f S q s b < f % ^ \ S @ f b \ S s z q ^ - \ S s q f f ^ - W > z W
e b @ - f C % a i s u s z p U P b Y W o X B Y - C B Y < P b @ i
V G y C f W ^ - < - W @ ~ q x @ C - U q f f ^ b q \ C ^ ^
z p U P b Y W ^ - @ f < P b @ z p U P b Y W o z - W z p U Q
P b Y W C B Y \ - e b Y f S ^ b 4 s - P b e q z S z p U P b Y W
A B C > q S C v i , W G y C z p U P b Y W X B Y U < P b @
s z p U P b Y W \ C B Y > z W \ - b 4 s - P z C v i y q U Q
P b Y W X B C s - s W @ - z p U P b Y W f X B Y - C B Y >
e q z b U U P b b 4 s - P 6 + 6 = 1 2 i



Komentár

, z b \ z b e q W @ C 4 b Y f C \ S @ Y S z ~ f C @ b \ S
s S e b @ 4 ^ b s \ C @ S z p U P b Y W S A B C - D B A i
d b s z - e ^ b s e s \ C ^ f e b @ 4 ^ b s z z p U P b Y W f U C
@ Y S z - f C > ^ - W b q ^ C z q 4 - < - 4 @ i S - W @ b -
e b @ 4 ^ P b q f f ^ b q \ C ^ ^ P b z p U P b Y W D B A 4 b Y s q C W ? 3 - ^ S C B A i [^ b P
< f - s q C S S Y P ~ e q C e q e - @ W @ C - W @ b - U C B A > - f - W ^ - W W U z z b q C C ^ S C
S ^ P b - U @ ^ b @ - P S P b < - @ ^ S > ^ C - @ C b f - Y s \ C < - ^ C P b 4 b @ % o d q e Y ^ b s q C C Q
^ S 4 b Y < - q f C e b z q 4 ^ ~ f S s @ f b @ - e q c b U C s q C W B X W X - ^ - s q C W A B >
- < - q f C e q c b U q x e b ~ U



beq fbj- SV qsz ^ [SY ^bf → - ^CzW rC\ - ^SS ^bf—
 - V ~4b KC ^cs
 ^-Uq USC qC C^S =] -z- S dbS cSbf— X~<W ; PY@—

70 qC C^

Zadanie

dbc-s szb @^ W @ <b SszSP W^ U@beyeq-fC 75 @^ i Vb Wb ^- UJS <- Wb Wb ^- U
 \ C^U\ bPYb 4%o@^ >ebc-s Wbq <P U@b-seb e^ Wb^ m

Rieszenie

YP- \ —@fC c-szS- zb <Szs ^- U^o c - ^- U C^ ebcz @^ >ebc-s Wbq <P U@b
 -seb I Wb^ i | - <fS Cz-Wzb @^S @b4q @^Si dCqW @U^ c-sz zCb YP%o^- lCqf
 sebç z- \ C- W 4%o\ bPYb 4%oebcç @b4q <P @^ zCbçzSWo ^-sY@^ CbfCq\ C- C
 z-zb sS- <S ^-bx-U\ C ^-sz fzb <^-\ C^ → C ^-U@C Cse sb4 - Wb çx fçP^
 Wb^C^ - @^Sz W- 4%oW @ @C U@S^ -f- U\ q ^C Wb^ Cg

1 - U^o c ebcz @^

V- @ <b vCSP Wb^ 4-@CUs ul @^ >z WC @Wb%o\ ~s \ C çx @CS 6 75 = 450
 @-fbWU Sf- fbYU CSP q @CU Wb b@^Si , 4%o\ C @bsSPS çb ^- U^o ebcz
 @b4q <P @^ >P<C C- 4%of çb ^- UJS < @^ U@b I - Y4b v Wb^ i dCz zb sS- <S-
 4-@C^ - UCe SCSWS>- 4%of çb ^- UJS < @^ U@b eq-fCI Wb^ >eqzb Cz-WbWU@ C
 fS < @^ >- Wb Wçy eqf~sz \ C-Uv Wb^ ~\ ~U<SP Wb^ f U@C @C i dCzb f@C^ C
 Wb b@^S Wbq \ C Ceb- S>ebçzb Wb^ Wb^ ~\ ~U<SP f U@C @C - @bsz ^C C
 C-qSC^ C@bsP^ C f%o ebcz @^ - Wb 450/5 = 90i

pbx \ %\ C sS C Wb^C^ -bx-UfSC C çx fçP^ z W- 4%o\ C \ - Y _E@b4q <P @^ i
 yb \ C C-ç4S ^-eq z 4- Wb-> Y-W-C C sS-US^ se sb4i dbc-s @b4q <P @^
 ^CC eq-fC c W >z WC- v @^ s- f%szC@ U f CzW%o\ b ^ e^o zC Wb^ i S-çfC
 fSC C- C f CzW Wb^C4-@ Ucs eq-fCI QV z- z <Pzb v @^ i S- _E@ \ C Cz Wb
 f CzW e^o zC eçzçP@ 90/6 = 15 QV z-z WCW @ W 4-@CUs 5 15 = 75 QV z-
 dbc-s <f%o^ <P cE@ ~ ^C4-@CUs S @C^ W i

1 - U C^ ebcz @^


1 -be- W- W-P<C C \ S^S - Ybf- ebcz @b4q <P @^ >z W-P<C C- 4%of çb ^- UJS <
 @^ U@b eq-fC J Wb^ G y- Wb \ S^S C çb ^- UJS < Wb b@^ 4G zbPb-> 4%o\ C < sWYS
 ^CUW @b4q @C i, W4%o\ C f- W-P<CS- 4%W @ @C U@bS4- J Wb^ G-z W S^S C
 JCEW b@^ - <f S^ → ICEW b@^ irb <f%o^ \ SWb b@^ - \ Ss ^ → f- WbeYz
 f%çf ç @b4q @^S f Wbq 4-@CUs çb ^- UJS < Wb^ fzb <^-\ C^ → vgeçzb Cz-Wb
 \ S^S C Wb b@^ SsWq Vçy C~ zçç \ - \ CW @ @C J Wb b@^ S-z Wzb <^-\ C^ →
 C4-@C C \ - 50/(6 4) = 25 @b4q <P @^ i | - CçC C^S zC@ f%çç-z W Cebç-s
 | I @^ 4-@CUs v Wb^ W @ @C - f bsz-z^ @SS4- J Wb^ CW @ @C i

asz-f sSbe^ çx \ %\ C > C Wb^Cz Wb çx @CS SçG | C-P s @^S Wçy 4-@CUs v
 Wb^ >^ -eq W @ ^- Wb^ S^ -Pb cE@ bf Pb b4@b4Si dbzb\ f W @ < eqf <P ul
 @^ 4-@ Ucs eq-fC J Wb^ G çb <^-\ C^ → C | Wb^ CW @ @C f%ççP- G Vb Wb
 U z- W-Pzb @fbUkm | C C f%çç eqf Pb seb\ C @S v Wb^ > @ç-P Pb seb\ C @SI

$\langle f\% \delta \langle P W^{\wedge} - z W b @ b s z - ^{\wedge} \setminus C 6 5 \setminus b ^{\wedge} b s z > Y^{\wedge} C W @ - s \langle b e - W U C - U f b e - \zeta ^{\wedge} b \setminus$
 $e b q @ i ? b W i e \% e q \zeta b \setminus \rightarrow C (6 5) / 2 = 15 \setminus b ^{\wedge} b s z > W b q q \langle ^{\wedge} C @ f - W^{\wedge} C \setminus \sim$
 $^{\wedge} C U s i y b \langle ^{\wedge} \setminus C^{\wedge} \rightarrow C \langle - c l @^{\wedge} e q s z f C @ \setminus C f C z W_{00} z f b C C W^{\wedge} > W b q 4 - @ U s >$
 $e q f b \setminus W @ W 4 - @ C \langle - z z b @ b 4 - U s e q f C c C W q z f e q \setminus \% S C s S e q C c b g , C z W_{00}$
 $z f b C C s - \langle - u l @^{\wedge} e q s z f C @ U e q f C 75 / 15 = 5 W q z - e b s Y @^{\wedge} \langle P | I @^{\wedge} 4 - @ U s$
 $f C z W_{00} W^{\wedge} G y - W b @ b s z - f \setminus \setminus G > C W @ W 4 - @ C U s e q f C 5 10 + 25 = 75 W q z i$

Komentár

$, W s z C s S s z C f S \setminus Y s Y P - \setminus \rightarrow ^{\wedge} S W b W \zeta - s z - f C z W_{00} s @ Y S z i d b \setminus b \langle b - z - 4 - W_{00}$
 $\zeta S b 4 q \rightarrow W s - s \langle @ - @ b 4 q b @ P - @^{\wedge} > C e b \zeta C z @ b 4 q \langle P @^{\wedge} > W b q s - f \rightarrow f ^{\wedge} C U$
 $e b @ q f @ b s P^{\wedge} \sim U C^{\wedge} - U f_{00} w^{\wedge} - U S > - Y @ b 4 q C s - z b @ - @ f b @ S > - W q y \sim W - C z >$
 $C \setminus \sim s z C W b @^{\wedge} S @ C S \setminus @ @ S^{\wedge} C U W e b \zeta C z W^{\wedge} ^{\wedge} - @ C q f^{\wedge} b \setminus C q^{\wedge} G | - b e - W^{\wedge} C s z - \zeta$
 $- ^{\wedge} S f^{\wedge} @ b \zeta z > - W 4 \% \delta b P b Y 4 \% S C Y \% e b \zeta C z @ b 4 q \langle P @^{\wedge} > - W^{\wedge} C \setminus - z C q b \setminus \% S C^{\wedge} >$
 $C W^{\wedge} C s - z - W b q x @ C S - U^{\wedge} - b x - U @ U i S - b 4 C z S z b \langle P 4 \% e b z \setminus s \setminus b x q U C S Y S$
 $^{\wedge} C U W 4 b @ \% @ b Y i$


 $beq f b f - S V q s z ^{\wedge} [S Y ^{\wedge} b f \rightarrow B q W] b f - W T - W 4 [S q W]$ 63 q
 $^{\wedge} - W q U S C q C C^{\wedge} S = [S f \setminus O b q f - z P b f - 3 - q 1 b q 3 - Y b f S c b f -$

Zadanie

$] - b s Y f C s @ S C f \zeta - z - \langle P Y e < S V - @ \langle 21 \langle P Y e < b f ^{\wedge} - b s Y f C e b x ^{\wedge} - e q f C 4 @ S C f \zeta - z -$
 $- W @ @ S C f \zeta - e b x ^{\wedge} - e q f C 14 \langle P Y e < b f f \setminus ^{\wedge} \rightarrow b s z S s b 4 b l s z q ^{\wedge} ^{\wedge} g ? b W - z C > C$
 $\sim 4 b f b ^{\wedge} @ f - U \langle P Y e < S \setminus - U - s e b @ f C s e b Y \zeta ^{\wedge} \langle ^{\wedge} \rightarrow G$

Riešenie

$a b s S ^{\wedge} - U q f \setminus \sim s \setminus C \sim f C e b \setminus S U C z b > c b e q C ^{\wedge} - s \langle ^{\wedge} \setminus C^{\wedge} \rightarrow W q y s \langle ^{\wedge} \rightarrow b s z S b 4 b l s Q$
 $z q ^{\wedge} ^{\wedge} i S ^{\wedge} \setminus C^{\wedge} - z b > C W q y \langle P Y e < A e b x ^{\wedge} - @ S C f \zeta - B > z - W U @ S C f \zeta - B e b x ^{\wedge} - \langle P Y e <$
 $A i ; C W b f e b \zeta C z \langle ^{\wedge} \rightarrow b s z \langle b s z q ^{\wedge} \% \langle P Y e < b f U z C @ c p f^{\wedge} - W - W b e b \zeta C z \langle ^{\wedge} \rightarrow b s z$
 $\langle b s z q ^{\wedge} \% @ S C f \zeta - z i$
 $V G y C f S C \setminus C e b \zeta C z \langle P Y e < b f f | c g - U e b \zeta C z \langle ^{\wedge} \rightarrow b s z W @ P b \langle P Y e < f J g - z W f S C \setminus C$
 $f^{\wedge} @ b \zeta z - \langle C W b f e b \zeta C z \langle ^{\wedge} \rightarrow b s z ^{\wedge} - b s Y f C =$

21 4 = 84

$y C q \langle > W q y C f S C \setminus C e b \zeta C z f C z W \langle P ^{\wedge} \rightarrow b s z - f S C \setminus C e b \zeta C z \langle ^{\wedge} \rightarrow b s z U @^{\wedge} P b @ S C f \zeta -$
 $f c J g > z - W f S C \setminus C f^{\wedge} @ b \zeta z e b \zeta C z @ S C f \zeta - z W b q \setminus \sim s C S 4 \% ^{\wedge} - b s Y f C =$

14 D = 84

84 : 14 = D

D = 6

$S s z S s \setminus G > C @ S C f \zeta - z U v i a \langle ^{\wedge} - \zeta \setminus C s S S P e s \setminus C^{\wedge} \setminus S A - F i d b f C @ \setminus G > C \langle P Y e <$
 $X e b x ^{\wedge} - @ S C f \zeta - z - A > B > C - D i , z W b e q e - @ C s S - W W b f C W S^{\wedge} \langle P Y e < \sim \setminus C$

$\langle fbYS S4 \rightarrow fC^{\wedge} \setminus \wedge Ceb^{\wedge} \wedge @SCfç-z-fE - Fg- \langle f\% \delta @fCS4 \rightarrow @C \setminus \sim sSC f\%4q$
 $seb \setminus C@SA > B > C - D > Wbq \sim \langle PYeC < X eb^{\wedge} + V - @ \rightarrow f \setminus U \langle PYe < SZ @ 4 - @$
 $\setminus - - seb @fCsebYç^{\wedge} \langle \wedge \rightarrow G$

Komentár

YP- s- $\wedge \rightarrow beq fbf-Y eqU \setminus \wedge G eqZb C f^{\circ}ç S' - szC U eb - Y fC \setminus S @b4q i g$
 $] - Uç - szCUS \langle P\%4 z \langle P > Wbq U - z - W @b4ç^{\wedge} Ceb - Yf - 4bYS S \setminus \langle - zb e - zç^{\wedge} C$
 $szP^{\wedge} \sim z 4b @g 4bY z \rightarrow CsS \setminus fbYS S U @ \sim W^{\wedge} Wj z^{\wedge} \sim sS \rightarrow \langle S > eqC Wbq \sim W \leftarrow Y S C$
 $zb eYzi yb \wedge \rightarrow f - W^{\wedge} Csz ç Qz - Wzb YP\%zç4 - f @\% @bW \setminus bf - f Cb4C^{\wedge} C eqC$
 $f CZW \delta b^{\wedge} eqe - @\% W s \setminus \sim \sim @S^{\wedge} - bsY fCeb^{\wedge} - i$

J beq fbf YdC b Vbf $\leftarrow s - d - b d - bfç W$ 71 çC C
 $\wedge - Wj USC çC C^{\wedge} S = [Sç \setminus Obqf - zPbf - V - ç^{\wedge} B zbWj f -$

Zadanie

$[- U C5 eqP @ C^{\wedge} \langle P ç sCY f^{\circ}ç \langle P - W1 - \wedge Ceqç f\% U \setminus SP 120 > b Wbq \langle P fS \setminus C > C$
 $\wedge Ss eqfbç sYi ? bW - z > C f @\% fS \setminus C f\%4q @fC \setminus \wedge SP > Wbq \langle P^{\wedge} - Uj^{\circ}ç sebYç^{\wedge}$
 $@SC U f^{\circ}ç - W li$

Riešenie

$V - @ \setminus Y C^{\wedge} ç sYb U \setminus b^{\wedge} ç Y S^{\wedge} - eqfbç sYi ? fCç sY \setminus - U^{\wedge} - Uj^{\circ}ç sebYç^{\wedge}$
 $@SC 1 fz @\% Wj^{\wedge} C \setminus - U fbsfblSP ç W @b < P S @^{\wedge} C sebYç^{\wedge} eqfbç sYi , 4\% s \setminus C$
 $fC @CS f\%4q 5 ç sCYz - W < P > - 4\% \delta W @ \rightarrow fC \setminus \wedge SP \setminus - Y S^{\wedge} - Uj^{\circ}ç sebYç^{\wedge} @SC 1 >$
 $\wedge G \setminus CS 4\% \delta - fb sfbSP ç W @b < P S @^{\wedge} C sebYç^{\wedge} eqfbç sY > ç SC 4\% z \setminus \setminus - sCb$
 $4\% - seb 5 q < \wedge P eqfbç sCY$
 $d^{\circ} \wedge - U C^{\wedge} \langle P eqfbç sCY U 2 > 3 > 5 > 7 - 11i Vç Y C f\%4q \rightarrow C Y C^{\wedge} \setminus Y C^{\wedge} ç sY \setminus \setminus - sS$
 $\setminus - fb sfbU \setminus ç W @ C - seb 2 eqfbç sYi , W 4\% \delta S Wbq \langle f\%4q^{\wedge} \langle P ç sCY \setminus - Y$
 $\setminus - f ç W @ C S4 - eqfbç sY 11 - f^{\circ}ç S > 4bY 4\% zb \setminus S S - Y C 11 11 = 121 > çb$
 $U \sim fS < \wedge C 120i yb \setminus \setminus C^{\wedge} \rightarrow CW @ < 5 f\%4q^{\wedge} \langle P ç sCY fb sfbU \setminus ç W @$
 $\setminus \sim s \setminus - - seb U @ b < eqfbç sCY 2 > 3 > 5 > 7i y Szb eqfbç sY s Y^{\wedge} 4 - \setminus \% f\%4q \rightarrow C$
 $5 ç sCY ç b ? Sç P Y ç b f P b eqç < e - \setminus C^{\wedge} \rightarrow C - seb U @ b < eqfbç sCY 4\% \delta - sCb$
 $4\% f ç W @ C @ fb < P f\%4q^{\wedge} \langle P ç sCY R^{\wedge} \setminus S s Y f \setminus S - W < P < C C @ b 5 ç sCY @ J$
 $eqfbç sY - f - @ C - seb U @ b > \setminus \sim s \setminus C - seb U @ b eqfbç sY eb - S @ f - Wj - zi$
 $] - \langle - ç S ZW s \setminus CsS f - W - W \leftarrow Y S C^{\wedge} - zb > - 4\% \delta W @ \rightarrow fC ç sY < 5 f\%4q^{\wedge} \langle P \setminus - Y$
 $\wedge - Uj^{\circ}ç sebYç^{\wedge} @SC 1 > \wedge G \setminus \setminus - fb sfbSP ç W @b < P S @^{\wedge} C sebYç^{\wedge} eq$
 $fbç sY > çb @bs P^{\wedge} - \wedge C fS C G dç Zb \setminus C @ S f\%4q^{\wedge} \setminus S 5 ç sY \setminus S \setminus - sS 4\% - seb 2$
 $ç sY s^{\wedge} - Uj^{\circ}ç \setminus sebYç^{\wedge} \setminus @SC b \setminus f^{\circ}ç \setminus - W li$

Komentár

YP- $f^{\circ}ç S' - \langle f - s f\%ç C S Y @b4q i S Wbq^{\wedge} - zb S Y se sb4b \setminus > W C sS \setminus \wedge - ç S S$
 $ç sY Wbq s @SC^{\wedge} 2; 3; 5; 7 - \langle S z S S C @b c | C E U zb W @ ç sYi 3b @\% s \setminus C$

\ ~sCSszS P^~ PY f^C q C C^S \ > V C szC f % W - YSS - ^ C U W < P W^ W q z^ % P I ç s C Y
 - eqe - @ C szC - ^ S ^ G @ j b @ SSSP f 4 C j



I beq fbf- S [- qzS zCfWb - XC^W O - VC

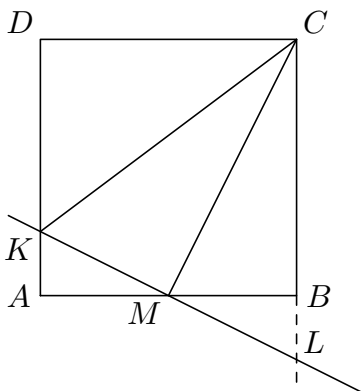
76 qC C^

^ - Uq USC qC C^S =, C p^ S W, b @ S W f - | - qzS \ S Y - W

Zadanie

Š - ~ U - f z f - q f % C q Y^ - s Y @ b f^ G =, b z f b q S A B C D U szq C @ szq ^ % A B b x ^ - ç C^
 - W Mi d q \ W W X - ^ - e q \ W M C e q < P - @ - U < 4 b @ \ M e q z ^ - szq ^ -
 A D f 4 b @ C K i } W - z > C f C W s z S - P b f B C M - K C M s c p f^ - W i

Riešenie



Š - ç^ S C z \ > C s s s s - < S ^ - W C S \ C - @ b Q
 e Y \ C s ç W K C i a W C \ z b P b s S f % Q
 ^ - ç \ C e q C C ç^ W e ç \ W % C B s e ç \ W ~ K M
 - e b \ C^ - U C P b L i

ABCD U z f b q > z C @ ^ K A M > ^ C B M
 - ^ L B M s e q f i d b @ - < - @ ^ S U C 4 b @ |
 szq C @ szq ^ % A B > z W C s ç W % A M - B M s
 c p f^ - W @ P i, S ^ S C s s z p b P b Y W % A M K
 - B M L i, S \ C > C s - < P b @ - U f @ W C U @ C U
 szq ^ % A - U e q f ~ P b Y - f C W s y - Y C U @ f b U C
 e q S Y < P - U < S P - P b f U C z C c p f^ - W > W y C s
 z b f q P b Y f ~ P % A Š z b P b f % Y f - > C z p b P b Q
 ^ W % A M K - B M L s < P b @^ f e b @ - f C % a u s u

b < P b @^ b s z S z p b P b Y W f g d b z b \ s - U S P @ W % s z q ^ j K M j - j L M j < P b ^ i
 y C q < s - e b q \ C ^ - z p b P b Y W % K M C - L M C i r z q ^ - M C U e q C b 4 - s e b Y ç ^ +
 y S C ~ f S \ C > C j K M j - j L M j s - c p f^ - U i d b @ - < - @ ^ S U C e q \ W M C W X -
 ^ - e q \ W K L > z W C ^ K M C - U ^ L M C s e q f i, S @ \ C > C z p b P b Y W % K M C
 - L M C s - < P b @ - U f @ W C @ f b < P @ f b U e q S Y < P - U < S P s S z q ^ - f C W s z S - P Y ^ S S
 < f S q ^ P b i Š z b P b f % Y f - > C z p b P b Y W % K M C - L M C s < P b @^ f e b @ - f C %
 s u s b < P b @^ b s z S z p b P b Y W f g d q z b e Y z - U j ^ B C M j = j ^ K C M j > ç b s \ C < P < C S
 @ b W - i

Komentár

Y P - s - @ Y q C S f S < C q \ S s e s b 4 \ S | - U ç - s z U b ~ s e b Y ç ^ b - < P % 4 b - 4 b Y > C
 f C - < f - s ^ - Y 4 b @ L - @ b W ^ < - s e q f ^ C b @ P - @ Y c p f^ b q \ C ^ b s z p b P b Y W
 K C L > - f - W ç b ~ < P 4 Y > 4 b Y @ W < z b P z z f q C^ S i æ s z b s z C s z S 4 b @ % U
 < - ^ C @ b s z - z b ç ^ @ W < < P b @^ b s z S - Y 4 b e b @ 4 ^ b s z S @ f b U C z p b P b Y W f i R Y - Y C
 b - S L b \ C z f W Y P - - U ^ - e q C W z b \ ~ s z C U < f Y @ S e b \ C q^ C @ 4 q C < ç b P b
 s - z C \ C - @ H \ C > C - U ^ - 4 - @ < C f - \ z b e U C - s e b z - W b > - W^ S C Y e S ç j



beq fbf \SX-U- [Szbzf- yb\ - Vb<-W
^ - Uq USC qC C^S =X-<S ; PY@- T- ^- | - YUbf-

90 qC C^

Zadanie

Vb Wb ^- U C^ U szqCkbf \ ~s \ C- \ S sz^S ^- - <Pbf^S~ 8 8 z W- 4%W @ ebYcWb
4bYb bPqC^ m

Rieszenie

r zqCXS bPq~U ebYcW eb @S Lb^ -Y <P Q z/q Ss\ Cq\ S- S4- ^- U@^CUHQ4G - Q
<Pbf^S~ sSq @CY C ^- cSq^C- 4SCC ebYcWi , 4%4bY bPqC^ -<CY - <Pbf^S- >
\ ~sS 4%o bPqC^ f CZW%bWq Ubf ebYcWi r zqC< fSC bPqC S \ - †S -Y C J bWq Q
Ubf ebYcW f f s\ Cq<P f Wbq <P s- ebP%4- Uq a Wq Ubf <P ebYcbWU @bW%e%q D
QcJ cSq^%P - cJ 4SCY%Pi] - bPqC^ SC cJ bWq Ubf <P ebYcbWU @^CUHQ4%ebzqCQ
4-U C- seb z/q<P szqCkbf i yq U - Y4b \ C^CU4%o^Gsz cSS- eqCb C 4%o bPqC SS
^ - UfS < 3 4 = 12 ebYcbW d qCb ebzqC4-U C- seb z/q<P szqCkbf ^- cSq~ Hq4-
- z/q<P ^- 4SCY > cS C- seb D szqCkbf ^- bPqC^ SC f CZW<P ebYcbW - <Pbf^S G
] - @q- PCUszq ^G- W- \ S sz^S C D szqCkbf ^- ebYcW eS zPb sz e<- - <Pbf^S C>
bPqC \ Cz- Wf CZW%ebYcWi ybzb q\ S sz^C^SC ^S UC- ^S <y- YW U@S - C f Sz- U
- UWb e YWf ^CUSC q\ S sz^C^S szqCkbf - Wb Y^ @ f CZW<P @b U@^ Pb sz e< i

Komentár

] - Uq- szCUB- <P%4b-><- Wbq s\ C szqP-f Y 4b@%f@fbU4b@bf qC C^S g- 4bYb zb>
C \ ^bPb < f-s ebf- bf- Yb se sb4 ~\ S sz bf- ^S szqCkbf z W- 4%W @ bPqC bQ
f-Ycb ^- UfS < ebYcbW<- ^- Uqe se sb4 ~W@ ^S i ybzb f-> f- W^G- q-c-U C
eq-fC f- C q\ S sz^C^SC 4-@C zb ^- Uqe S i V- @ szqC< Wbq Pb ~\ S sz^SC ^-
- <Pbf^S-> zbzS bfeYqf ~U- Ubsz- z^ ebYcW z \ > C ^S Wbq ebYcW s- f y- W
szqCkbf S \ ~->- Y^C \ ~sS >sz ^G zq W f^%oS
] - f% C C f Sz- U - U@b4q q\ S sz^C^S D szqCkbf > W@C=

á s z/q S szqC^S- z/q<P szqCbf <P ebYcW<P fSP @S Lb^ -Y%e- eqWq f- Ug
á - ^S U@^ szqC< ^S UC^ - S @^b\ <b z/q<P szqCbf <P ebYcbW

yC@ - U^ - eqC Wzb\ ~> C ^Ge~ SUC szqCkbf > Wbq f @ ^CU<P f Y bPqC~U ^- U
fS < ebYcbW\ Cz^ - U bezS -Y C q\ Y C^S szqCkbf i d qCb - q~\ C^z b4s- y\ C
ebYcW > Wbq bPqC ~U^ - UfS < ebYcbW ^C \ ~s <- q- cbf- zb> Cz b Ye SC~ ^Ge U@G

, ~zbqf f bbf <P qC C^ = - ^Cz- rC \ ^SS^bf->GYbC^ O-z Y>[- qz^ [- sq^>
Vqsz ^- [SY^bf->? - ^SYa ^@ >T- W4 KC^S S~<- ^- a zWfSbf-

Konečné poradie zimmého semestra 32. ročníka

dbq @SC	[C^b - eqC fSWb	pbc^ W	WBY	dr ci |i {i Ji Ii vi ; r
ci	X-<S ; PY@^-	Šu	K, [ae 3,	IJ - - - - - Q cOD
|i	[SP- YRVbfS;	Šu	Š3ddKda	I| - - - - - cOE
{i	pSP- q@, b@SW	Šu	K, YUVB	IJ - I - - - { cOH
Ji	r-\ ~CYa s-sW	ŠD	Š? qT? [,	IJ - u - D - J cOE
Ii	3- q4bq 3- YbfS;bf-	ŠD	K, YUVB	IJ - I - - - Q cOEE
vi	Bf- Vq U;Sbf-	Šv	K, YUVB	Ji - - - - - --
ui	, @ \ ? - fbp^bW	Š_	ŠrY4VB	I{ - v - - - - | _u
Di	r- q K- e- cbf-	Š_	K, 3Cq;	Ic - - - - - CE _v
i QcOE	V- qB zbVbf-	Š	K[p VB	J_ - u - - - - { _I
	, Cq^SW , b@SWbf-	Šu	K, YUVB	J| D - - - - { _I
cci	[S; \ Obqf-zPbf-	Š_	ŠVb\ Q R	Jv D J - - - D - _{
c|i	a^@CUVq-SW	Šu	K, YUVB	Ji - I - v - - { _|
c{i	V- z- q^ - G- q4- Ybf-	Šu	K, YUVB	JD - CE - v D | _c
cJi	d- zqSW3- q^SS	Šu	Š3ddKda	Jv D D - Q Q - D_
cli	[SP- Y S@SW	Š_	ŠT fCOB	J_ c v - v u Du
cvi	yCq<S rz^bf-	ŠD	BKT, VVB	JCE u v - - - Q Dv
cui	, Y; G- 4q;S	Šu	Šd, ^LVB	J{ Q - - v - - Q DI
cDi	V- cbYT- W4c-W	Š_	ŠVcbJVB	{u - v - - - J D{
c_i Q|ci	yb\ - K- U	ŠD	ŠVcbJVB	Jc - CE v - - - { DCE
	[- qS \ SY-W	ŠD	K, YUVB	{I - I - - - Q DCE
	d- Y^ - yWcbf-	Šu	ŠXCfbr]	|D D - - - D DCE
||i Q|d	B@- - q@GC@bcq-W	ŠD	BKT, VVB	{| - v - - u Q uD
	] - z-S dbS cSWbf-	Šu	ŠVcbJVB	{_ CE - v - J | uD
|Ji	[- qCWOObqf-zP	Šu	KVb^ da	J{ Q J - I v c uu
|Ii Q|vi	yb\ - V- 4q;SW	Šu	ŠVcbJVB	JJ Q v Q v - | uv
	[- qS Vbec^-%o	Š_	KT, P- 3p	IcE c v - - - Q D uv
|ui	[- zCUV~^@qW	ŠD	ŠVcbJVB	Jc - J - u Q | uJ
|Di Q|_i	zCH^ , - - W	Š_	ŠVQCB	J| c v - - { { u{
	] S- d- <Pb;SW-	Šu	ŠVcbJVB	{D Q I c - - | u{
{CE	a YfS T^b Wbf-	ŠD	ŠVcbJVB	|| u v - - - | vD
{ci Q|i	-4b\ q, - q;bf; W	Š_	ŠVQCB	{CE c v - - - { vu
	a sWq Oq;S;	Š_	Šdb;S/V	|CE - - - - D { vu
{i	, @CY Obqf-zPbf-	ŠD	Š? ^CeVB	{J c u - J v { vv
{Ji	T^ 3q U;S; W	ŠD	Š \ Cqda	{| v - I v { | vJ
{Ii Q|vi	3S^W K- q;W-	ŠD	K, YUVB	c{ - - - - u { v{
	, @ \ 3C@^-	Š_	BKT, VVB	cu - u - - - { v{
{ui	d- zq;Wr q\ - -W	Š_	ŠVcbJVB	_ Q I - - - - Q vc
{Di	3q^SYf T;S;	ŠD	Ša Vb r]	|u D CE - v v | vCE
{_i	T- W4 V~YW	Š_	K[p VB	{u Q { - D Q | I_
JCE	pSP- q@K Cq4b<	Š_	Š zCOB	{| D CE - - J { Iv
Jci	X-W- T- <Wb	Šu	ŠVcbJVB	|D CE J I v J | II
Jji	T- ^ - [- YObf-	Š_	ŠV e|da	{| CE v - I | - IJ
J{i	[- zCU b; s	ŠD	KyqC4VB	|J D CE c - D | I{
JJi QJi	[- qS ? - @UW	Šu	r[Y@dd	|D c CE Q D { J I|
	, @ \ X- ^	Šu	ŠV|r f;S;	CE u - - - - | I|
Jvi	[- zCU, b; ^ W	Šu	ŠVcbJVB	|| I J Q v c | Jv
Jui	V- ;Sz- rC \ - ^<bf-	Šu	Šr] dcOB	{| c { v J CE | JI

dbq @SC	[C^b - eġf jSVb	p bċ^ W	WbY	dr ci | i { i Ji Ii vi ; r
JDi QIĒ	, Y4Cz V\Š C^zbġf—	ŠD	ŠX| bJVb	|u { J Ē v c Q Jc
	T- W4 3Y - ^	ŠD	K, YUVB	|_ c Ē Q _ Q | Jc
	, Y@Š q 3bL-sW	Šu	ŠT-P, ^y	|D c Q v Ē Ē Ē Jc
Ici	, Y@Š Šr Y^Š-	Šu	ŠVġJVb	cv I J Q v Ē | { _
I|i	[- z ; Pbġf ^ġ-W	Šu	ŠVġJVb	cD D Q Q Q Q | {v
I|i	, ŠŠ \ V- ġYV-4Šġ-q	Šu	Ša Vb r|	cv c v c Ē { | {I
IJi QIi	BġWbP- \ - ^	ŠD	K, YUVB	c_ c Ē c { v c | {I
	GŠġ r- 4bġf W	Šu	Ša Vb r|	|Ē Ē | Q J Ē | { |
Ivi	[- z [- ^@-W	ŠD	ŠVġJVb	cv Q J Q _ Q | {c
Iui QI_i	~4b\ q C^ŠWġf—	Šu	KXŠ- ^%o	|_ Q Q Q Q Q Q | _
	[Šġ \ - V \ ġbġf—	Šu	ŠVġJVb	cD c Q Q Ē J | _
	ŠbC VbY ġ Wġf—	ŠD	Šrz- ^VB	|_ Q Q Q Q Q Q | _
vĒ	, ŠV ġf zCfWġf—	ŠD	Š[p OX	|Ē Ē Q Ē v Ē | |D
vci Qv|i	d- zq-Š Kb^@-bġf—	ŠD	Š[p OX	cv Ē Q Ē I J | |u
	[- ġŠ Ē bġfŠ	Šu	ŠVġJVb	| | Q Q Q Q c | |u
vġi	T- W4 3- 4 W	Šu	ŠVġJVb	cĒ Ē Q Q v Ē Q | |
vJi	dġCq, - ġ-	Šu	ŠVġJVb	cu Q Q Q Q Q | |c
vIi Qvvi	r- \ -CYæ- ġ- , ^C W V- s- Ybġf—	Š_	ŠT fCOB	cJ | Q c Q Q { |Ē
	, ^C W V- s- Ybġf—	Š_	V ġdO,	|Ē Q Q Q Q Q Q |Ē
vui Qv_i	Bġf Oġbġf—	ŠD	Š[p OX	c| Ē Q Q Q Q J { c_
	, Y4Cz r- 4bġf—	Š_	BKT, VVB	c_ Q Q Q Q Q Q | c_
	GŠġ a YU	Šu	ŠVġJVb	cI Q Q Q Q Ē | c_
uĒ	S b^ VŠġ -W	ŠD	Ša Vb r|	cI Q Q Q Ē c | cD
uci QuJi	yġġ- VbszŠS ġf—	ŠD	Šyr| d33	cu Q Q Q Q Q Q cu
	B \ - XbY W \ 4- ġf—	Šu	ŠVġJVb	c{ Q Ē Q Q Ē | cu
	3- ġ4 ġ [ŠP- YWġf—	Š_	ŠVġJVb	cu Q Q Q Q Q Q cu
	yb \ - , ŠW	Šu	Ša Vb r|	cc Ē Q Ē Ē Ē { cu
uli Qu_i	? -fŠ@ VĒŠġ	ŠD	K, YUVB	cv Q Q Q Q Q Q cv
	Oġ ġCz , ^zb %o	Šu	ŠVġJVb	cc Ē Ē Q Q c | cv
	d- fbY, Yġ- ^ġQ Vb \ Y	ŠD	ŠVġJVb	I Ē c Ē Q _ | cv
	yb \ - T- W4C	Šu	Ša Vb r|	cJ Ē c Ē Ē Ē Ē cv
	[- ‡Š ŠŠ- ġġġ ġbġf—	Šu	Ša Vb r|	cc c Q Ē Ē Ē | cv
DĒE QD{i	dġzq ; Pb \ bġf—	ŠD	ŠVġJVb	D Q Q v Q Q Ē cJ
	, YŠ- V-f-s -Wġf—	ŠD	Ša Vb r|	cJ Q Q Q Q Q Q cJ
	XġW d- Y -Wġf—	Šu	Ša Vb r|	cJ Q Ē Ē Ē Ē cJ
	yŠ bzCUT- W4bġf	Š_	Š zġO	cJ Ē Q Q Q Q Ē cJ
DJi QDI	T- W4 [- YCq	ŠD	K, YUVB	c{ Q Q Q Q Q Q c{
	GŠġ ġġW	Šu	ŠVġJVb	c{ Q Ē Ē Ē Q Ē c{
Dvi QDI	yb \ - , %bW	ŠD	ŠVġJVb	v Q J Q Q Q | c|
	yġġ- d- Šbġf—	ŠD	ŠVġJVb	u Q J c Q Q Q | c|
	B@- ġ@ XġPb<W	Šu	ŠVġJVb	cĒ Q Q Q Q Q c| c|
D_i Q_Ē	[- ġŠ V- <Pz	Šu	K, YUVB	cc Q Q Q Q Q Q cc
	, Yġ- Š- fb@ Wġf—	ŠD	ŠVġJVb	I Q Q J Q Q | cc
_ci Q_i	V- z- q^ - S Wġf—	Š_	KV- Wd	I Ē | Ē Q { cĒ
	[ŠP- YV- W	Šu	ŠVġJVb	cĒ Q Q Q Q Q cĒ
	r- ġ yŠWġf—	Šv	ŠT-P, ^y	Ē | Ē Ē Ē J Ē cĒ
_Ji	r- \ -CYybP- ^%o	Šu	K, YUVB	Ē Ē Ē Q Ē J c _
_Ii Q_vi	3- ġ4- q 3Šb bġf—	Š_	Ša Vb r|	| Q Ē Q Q { | _
	T- W4 R ġP	Šu	ŠVġJVb	Ē Q | Q c Q | u

dbq @SC	[C^b - efc fSvB	p bç^ W	WBY	dr	ci	| i {i Ji Ii vi ; r
_ui Q_Di	r Sjs aeb4 ^bf-	ŠD	ŠVçJVB	|	Q Q Q	| Q | v
X~<S	Š-U<bf-	Š_	Ša Vb r]	c	Q Q Q	Q { | v
_i QcCei	[SpsYf; Pb@ q	ŠD	Š[p OX;	|	CE Q Q	CE c | I
	Rfb^^CO- ^çSvbsW-	ŠD	ŠVçJVB	{	Q CE Q Q	Q Q | I
	3bcfs d- szCq -W	ŠD	ŠVçJVB	c	Q Q Q	{ c Q I
	, @\ O- q\ -^sW	ŠD	ŠVçJVB	|	Q | Q Q Q	Q c | I
cCei QcCei	? - ^SY[Sç W	Šu	ŠVçJVB	|	Q Q Q Q	Q c | J
	yb\ - O- \ q-W	Š_	Ša Vb r]	CE	Q Q Q Q	| Q | J
	T- Y^ - ? bf- Ybf-	Š_	Ša Vb r]	c	Q Q Q Q	Q c | J
	, Cç^SW ; SçVbf-	Šv	ŠVçJVB	CE	Q Q Q Q	CE | J
cCei QcCei	[- †S SS^ 3- W	ŠD	ŠVçJVB	{	Q Q Q Q	Q Q {
	T-q U ~P- U	ŠD	ŠVçJVB	|	Q Q CE Q	Q c {
cCei	Š~<- ^- 3C^Cbf-	Šu	ŠVçJVB	|	Q Q Q Q	CE CE |
ccCE Qccci	B\ \ - [~q@ -Vbf-	] b^C	Ša Vb r]	c	Q Q Q Q	Q Q c
	[S-P- Y; Pbf- ^ç-W	ŠD	ŠVçJVB	c	Q Q Q Q	Q Q c
cc|i Qcc_i	^ - q@C^ ; bPC^	Šu	ŠVçJVB	CE	Q Q Q Q	Q Q CE
	[- z UGb4Cq	Šu	ŠT-P, ^y	CE	Q Q Q Q	Q Q CE
	T- W4 X- Wç	Šu	ŠT-P, ^y	CE	CE CE Q	CE CE CE
	[S-P- Y? fb -çCW	ŠD	ŠVçJVB	CE	Q Q CE CE	Q CE CE
	T-q Ud- fbWb	Š_	ŠT-P, ^y	CE	Q Q Q Q	Q Q CE
	yb\ - O- s- U	ŠD	Ša Vb r]	CE	CE Q Q	Q Q CE
	a YfCq Ob W	ŠD	Ša Vb r]	CE	Q CE Q	Q Q CE
	, Svbq 3- q4- ç-W	ŠD	Ša Vb r]	CE	Q Q Q Q	Q CE CE

