K. Amanow, G.Muhammedow

Gözi görmeýän başlangyç synp okuwçylaryna Lui Braýlyň ulgamyndaky güberçekli – nokat şekilli ýazuw alamatlaryny, belgilerini öwretmek

Saglygy dikeldiş okuw-terbiýeçilik toplumlarynyň başlangyç synp mugallymlary, terbiýeçileri üçin usuly gollanma

Türkmenistanyň Bilim ministrligi tarapyndan hödürlenildi

Aşgabat
Türkmen döwlet neşirýat gullugy
2022

UOK 376:81
A 58

Amanow K., Muhammedow G.
A 58 **Gözi görmeýän başlangyç synp okuwçylaryna Lui Braýlyň ulgamyndaky güberçekli - nokat şekilli ýazuw alamatlaryny, belgilerini öwretmek.** Saglygy dikeldiş okuw-terbiýeçilik toplumlarynyň başlangyç synp mugallymlary, terbiýeçileri üçin usuly gollanma. – A.: Türkmen döwlet neşirýat gullugy, 2022.

Gollanma Saglygy dikeldiş okuw – terbiýeçilik toplumlarynyň kör we çala görýän bölümleriniň başlangyç synp mugallymlary, terbiýeçileri hem-de tiflopedagogika ugrundan okaýan talyplary üçin niýetlenen. Gollanmada güberçekli – nokat şekilli harplary, alamatlary, belgileri öwretmek boýunça zerur bolan esasy maglumatlar berilýär.

TDKP № 138, 2022 KBK 74.3+81 ýa 71

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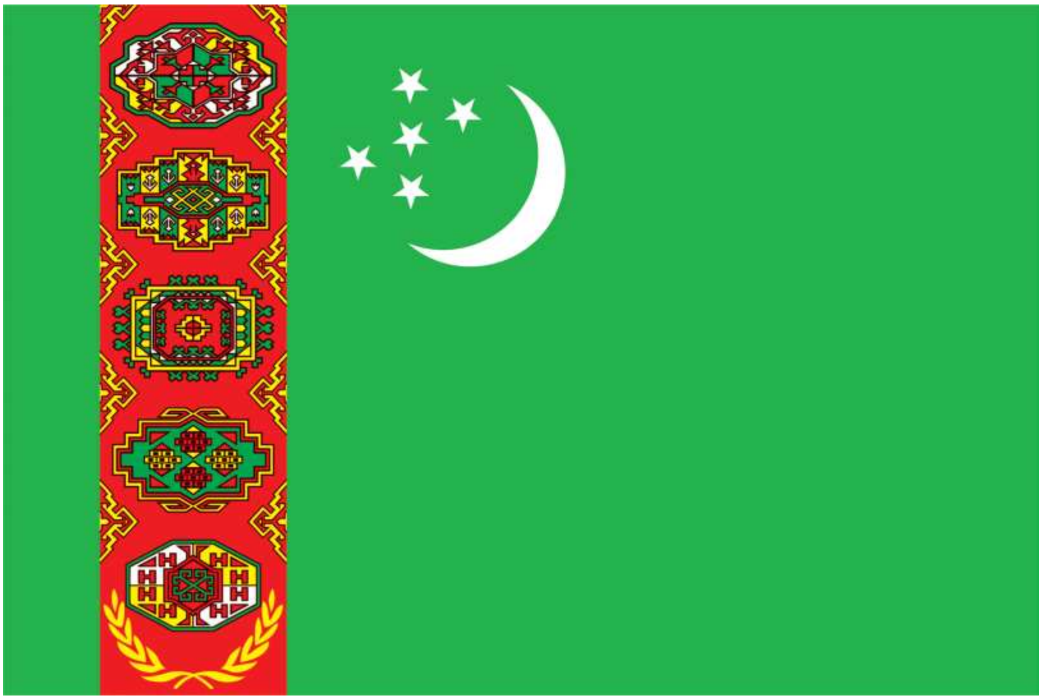
TÜRKMENISTANYŇ PREZIDENTI
SERDAR BERDIMUHAMEDOW

TÜRKMENISTANYŇ DÖWLET TUGRASY



TÜRKMENISTANYŇ DÖWLET BAÝDAGY

TÜRKMENISTANYŇ DÖWLET SENASY

Janym gurban saňa, erkana ýurdum,
Mert pederleň ruhy bardyr köňülde.
Bitarap, garaşsyz topragyň nurdur,
Baýdagyň belentdir dünýäň öňünde.

Gaýtalama:

Halkyň guran Baky beýik binasy,
Berkarar döwletim, jigerim-janym.
Başlaryň täji sen, diller senasy,
Dünýä dursun, sen dur, Türkmenistanym!

Gardaşdyr tireler, amandyr iller,
Owal-ahyr birdir biziň ganymyz.
Harasatlar almaz, syndyrmaz siller,
Nesiller döş gerip gorar şanymyz.

Gaýtalama:

Halkyň guran Baky beýik binasy,
Berkarar döwletim, jigerim-janym.
Başlaryň täji sen, diller senasy,
Dünýä dursun, sen dur, Türkmenistanym!

GIRIŞ

Berkarar döwletiň täze eýýamynyň Galkynyşy döwründe ýurdumyz ykdysady taýdan günsaýyn ösýär. Gahryman Arkadagymyz: «Çagalar biziň geljegimiz, olar ýurdumyzyň ertirki eýeleri. Iň arzyly isleg-arzuwlaryň, beýik maksatlaryň hasyl bolýan Watanymyzda çagalar hakdaky alada hiç mahal ünsden düşürilmez» diýip belleýşi ýaly, ýurdumyzda saglyk ýagdaýy çäkli çagalaryň döwrebap bilim almaklary üçin dünýä ülňülerine gabat gelýän täze okuw binalary gurlup ulanylmaga berilýär. Häzirki zaman kämil tehnologiýalaryň ösen döwründe braýl ulgamynda okuw kitaplarynyň çap edilmegi, maksatnamalaryň halkara kadalaryna laýyk getirilmegi bilim ulgamynda ýokary hil derejesini gazanmaga mümkinçilik döredýär.

Ýurdumyzda ýaş nesli Watana, halka wepaly, ylymly, bilimli, giň dünýägaraýyşly edip terbiýelemekde uly işler alnyp barylýar. Saglygy dikeldiş okuw-terbiýeçilik toplumlarynda geçirilýän terbiýeçilik ähmiýetli çäreler, bäsleşikler, hepdelikler okuwçylaryň okuwa höwesini has-da artdyryp, olaryň ukyp-başarnyklaryny ýüze çykarmakda, ösdürmekde örän ähmiýetlidir.

Durmuşyň häzirki ösüşi saglyk ýagdaýy çäkli çagalardan diňe ýazmagy, okamagy, diňlemegi we gürlemegi talap etmän, eýsem, gündelik durmuş meseleleri hem

özbaşdak çözmeklerini talap edýär. Saglyk ýagdaýy çäkli çagalaryň ukyp-başarnyklaryny mümkin boldugyndan kämilleşdirip, olary hem özbaşdak ýaşaýşa taýýarlamak esasy wezipeleriň biridir. Ýurdumyzyň ähli ýerlerinde häzirki zaman enjamlary bilen üpjün edilen täze okuw mekdepleriniň gurulmagy, bilim ulgamynda halkara gatnaşyklarynyň has-da ösdürilmegi, innowasion tehnologiýalary ornaşdyrmagyň dünýä tejribesiniň öwrenilmegi, döwletimiziň ylym-bilim ulgamyny düýpli ösdürmäge aýratyn üns berýändigini aýdyň subutnamasydyr. «Biziň bilime, ylma aýratyn hormat goýýan halkymyz bar» diýip, hormatly Prezidentimiz öz çykyşlarynda elmydama belläp geçýär.

Berkarar döwletiň täze eýýamynyň Galkynyşy döwründe hormatly Prezidentimiz Serdar Berdimuhamedowyň baştutanlygynda ylym-bilim ulgamyny ösdürmek döwlet syýasatynyň möhüm ugurlarynyň biri bolup durýar. Bu günki gün ýurdumyzyň bilim ulgamy pajarlap ösýär. Täze bilim ojaklary, ak mermere beslenen çagalar baglary, orta mekdepler gurlup ulanylmaga berilýär. Şol bilim ojaklarynda bilim-terbiýeçilik işlerini talabalaýyk ýola goýmak üçin ähli mümkinçilikler we şertler döredilendir. Şeýle bolansoň ylymly-bilimli, giň dünýägaraýyşly, ruhubelent ýaşlary terbiýeläp ýetişdirmek mugallymlaryň möhüm wezipeleriniň biri bolup durýar.

Berkarar döwletiň täze eýýamynyň Galkynyşy döwründe hormatly Prezidentimiziň ýolbaşçylygynda ýurdumyzyň ýagty geljegi bolan ýaş nesliň ylymly, bilimli,

berk bedenli, ruhubelent, kämil düşünjeli bolup ýetişmekleri ugrunda uly aladalar edilýär.

Hormatly Prezidentimiziň edýän aladalaryna jogap edip, bilim işgärleriniň her biriniň öňdebaryjy tejribeleri öwrenmegi we işe ornaşdyrmagy, bilim we terbiýe bermegi, okatmagyň usullaryny kämilleşdirmegi hökmandyr. Berkarar döwletiň täze eýýamynyň Galkynyşy döwründe hormatly Prezidentimiziň tagallalary netijesinde, ýurdumyzda ýaş nesliň dünýä ülňülerine laýyk bilim almagy, ylym dünýäsine aralaşmagy bilen baglanyşykly uly özgertmeler amala aşyrylýar. Umumy orta bilim berýän we ýöriteleşdirilen orta mekdeplerde dersleriň okadylyşyny kämilleşdirmek hem-de mekdep okuwçylaryny hünär okuwlaryna taýýarlamak, olara halkara okuw ulgamlarynyň talaplaryna laýyk gelýän derejede bilim bermek hem mugallymlaryň öňünde hormatly Prezidentimiz tarapyndan goýlan esasy meseleleriň biridir.

I BÖLÜM

1.1. Lui Braýl (1809–1852) Fransiýanyň tiflopedagogy

Ol batyl we görüş ukyby pes bolan adamlar üçin 1825-nji ýylda hat ýazmagyň düýbünden täze köp ugurly ulgamy bolan güberçekli – nokat şekilli alty nokatdan ybarat bolan harplary döredýär.

Lui Braýl 1809-njy ýylyň 4-nji ýanwarynda Fransiýanyň Kuwre şäherinde eneden dogulýar. Ol üç ýaşynda gözüne şikes ýetip, görmekden mahrum bolýar. 1819-njy ýylda Lui Braýl Pariždaky batyllar üçin ýokary okuw mekdebine okuwa girýär. Institutda okap ýören döwründe täze ulgamy döretmek barada köp işler geçirýär. Instituty gutaryp, şol institutda mugallym bolup galýar. 12 ýylyň dowamynda güberçekli – nokat şekilli alty nokatly harplary batyl adamlar üçin döredýär. Güberçek şekilli harplary döredensoň ol ýörite harplary ýazmak, okamak üçin grifel atly enjamy hödürleýär. Güberçekli – nokat şekilli harplar ulgamy boýunça ilkinji kitap 1837-nji ýylda Fransiýada çap edilýär. Şu wagta çenli Lui Braýlyň döreden harplar ulgamy barmak bilen okalýan harp hökmünde hemme ýurtda ulanylýan ýeke-täk kitaplar bolup, ol ÝUNESKO tarapyndan tassyklanandyr.

Birleşen Milletler Guramasynyň Baş Assambleýasy braýl elipbiýiniň ähmiýetini ýokarlandyrmak maksady bilen her ýylyň 4-nji ýanwaryny Braýl elipbiýiniň Bütindünýä güni hökmünde yglan etdi. Häzirki wagtda braýl ulgamy boýunça okap we ýazyp bilmek batyl we çala görýän adamlaryň başarnygyny aňladýar. Gözi görmeýän we çala görýän çagalar üçin sowatlylyk munuň özi bilim, hünär almaga, işe ýerleşmäge we özbaşdaklyga eýe bolmaga mümkinçilik berýär.

1.2. Lui Braýlyň güberçekli – nokat şekilli ulgamy

Görüş kemçiligi bolan adamlar üçin Lui Braýl tarapyndan döredilen güberçekli – nokat şekilli alty nokat şertli belgiler (hatlar ulgamy) görüş taýdan ukypsyz okuwçylaryň kitaplary hem-de döwürleýin neşirleri okamak üçin ulanylýan ýazuw ulgamydyr. Okuwçylar güberçekli – nokat şekilli hatlar ulgamynyň kömegi arkaly ylmy öwrenip, edebiýat we sazlar bilen tanşyp bilýär. Bu tebigat we onda bolup geçýän hadysalar, halk hojalygynyň gazanan üstünlikleri we öz ýaşaýan obadyr şäherleri barada doly maglumatlary almaga ýardam edýär. Olaryň jemgyýete goşulmagyny üpjün edýär we beýleki möhüm durmuşy endikleri, başarnyklary öwredýär. Görüş kemçiligi bolan okuwçylaryň bilim almagy belli bir maksady ösdürmek üçin braýlyň güberçekli – nokat şekilli harplaryny ýazmagy, okamagy özleşdirmek hökmandyr. Lui Braýlyň matematikada, fizikada

we beýleki aňlatmalarda döreden güberçekli – nokat şekilli alty nokat hatlar ulgamynyň kömegi bilen görüş taýdan kemçiligi bolan çagalaryň bilimini we terbiýesini guramaçylykly we umumy bilim maksatnamasyna laýyklykda ösdürmek we özleşdirmek mümkin bolsa-da bu babatda okuwçylaryň bilimini we endiklerini kämilleşdirmek mugallymyň kömegi bolmasa mümkin däldir. Şoňa görä-de Lui Braýlyň güberçekli – nokat şekilli harplary we okuw tiflo enjamlar barada maglumat bermek her bir mugallym üçin örän wajypdyr. Bu usuly gollanma aşakdaky üç bölümden ybarat:

Birinji bölümde Lui Braýlyň güberçekli – nokat şekilli umumy ýazgy görnüşleri hem-de grifel enjamlary barada maglumat berilýär we başlangyç synplarda okuwçylaryň biliminde peýdalanýan türkmen we rus dilinde braýlyň aňlama ulgamy düşündirilýär.

Ikinji bölümde başlangyç synplarda matematika sapaklarynda ulanylýan braýlyň ulgamyndaky güberçekli – – nokat şekilli alamatlarynyň ýazylyşy, düzgünleri nusgalaryň üsti bilen görkezilýär, gürleýän JAWS programma barada maglumat berilýär.

Üçünji bölümde Lui Braýlyň güberçekli – nokat şekilli alty nokatdan ybarat bolan aýdym-saz sapagynda notalaryň kitaplarda ýazylyşy hem-de okamak usullary görkezilýär.

Gollanmanyň maksady mekdebimizde kör we çala görýän başlangyç synp okuwçylaryna bilim berýän mugallymlara braýlyň güberçekli – nokat şekilli harp ulgamynyň okalyşy, ýazylyşy barada maglumatlary ber-

mekden hem-de braýl ulgamynyň okuw derslerinde tutýan ornuny açyp görkezmekden ybaratdyr. Bu maglumatlary toplumlaryň kör we çala görýän mekdep ýaşly bölümleriniň mugallymlary, terbiýeçileri sapaklarynda ulanyp biler.

1.3. Lui Braýlyň güberçekli – nokat şekilli alty nokatly ulgamy boýunça ýazmak we okamak düzgünleri

Braýl ulgamynyň esasyny alty nokat düzýär. Her bir san, her bir belgi alty nokadyň içinde utgaşdyrylýar. Her nokadyň öz sany bar. Nokatlaryň sanawy ýokardan aşaklygyna sanalýar:

1-nji tablisa

4 ∘	∘ 1
5 ∘	∘ 2
6 ∘	∘ 3

ýazylanda

1 ∘	∘ 4
2 ∘	∘ 5
3 ∘	∘ 6

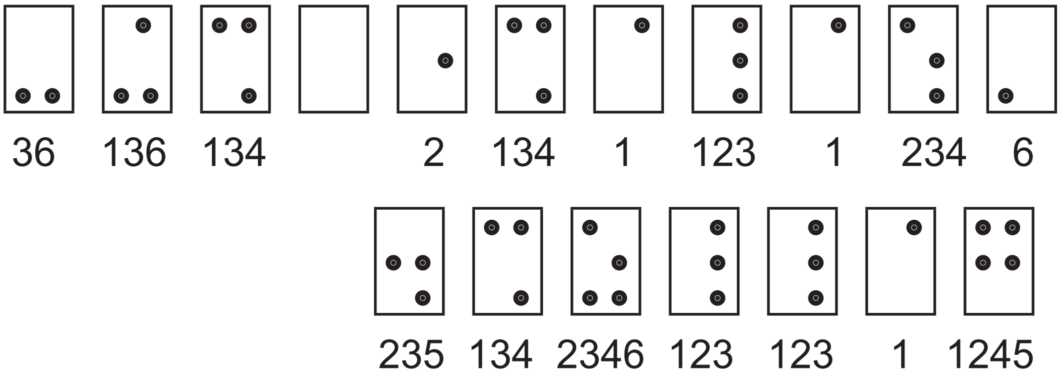
okalanda

1-nji düzgün. Braýl ulgamynyň güberçekli-nokat şekilli ýazgylary sagdan çepe ýazylýar.

Bellik. Nokatlaryň aşagyndaky sanlar aýratyn aýdylýar. Mysal üçin, kese çyzyk 3,6 nokatlar.

Mysal üçin: Salam, mugallym!

(Grifel enjamy bilen ýazylyşy)

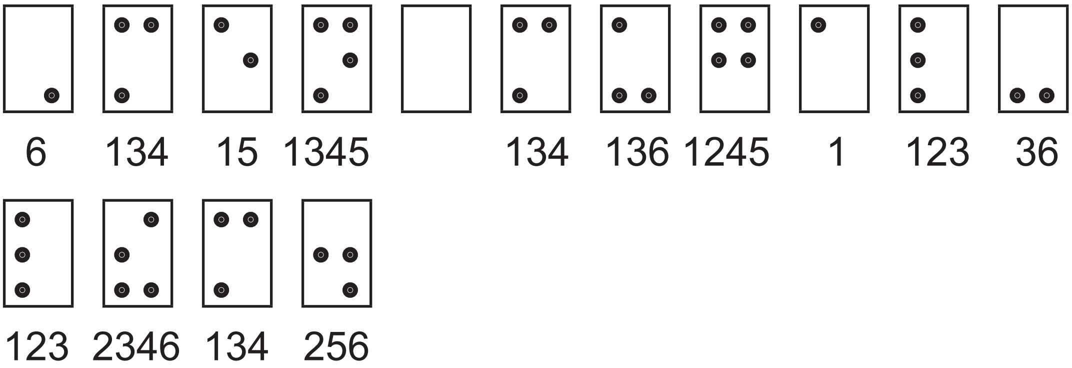


1-nji surat. AŞSDOTT-niň 1-nji synp okuwçysynyň braýl enjamynda hat ýazyşy

2-nji düzgün. Braýlyň güberçekli-nokat şekilli ýazgysynyň okalyşy (çepden saga).

Mysal üçin: Men mugallym.

(Kitapda okalyşy)



2-nji surat. AWSDOTT-niň 1-nji synp okuwçysynyň braýl kitabyny okaýşy

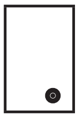
3-nji surat .Türkmen döwlet neşirýat gullugy tarapyndan braýl ýazuwynda çap edilen käbir kitaplar

TÜRKMEN ELIPBIÝI

Aa 1	Bb 12	Çç 12345	Dd 145	Ee 15
Ää 126	Ff 124	Gg 1245	Hh 125	Ii 24
Jj 1456	Žž 245	Kk 13	Ll 123	Mm 134
Nn 1345	Ňň 345	Oo 135	Öö 1236	Pp 1234
Rr 1235	Ss 234	Şş 156	Tt 2345	Uu 136
Üü 13456	Ww 2456	Yy 2346	Ýý 12346	Zz 1356

2. Sargyt № 285

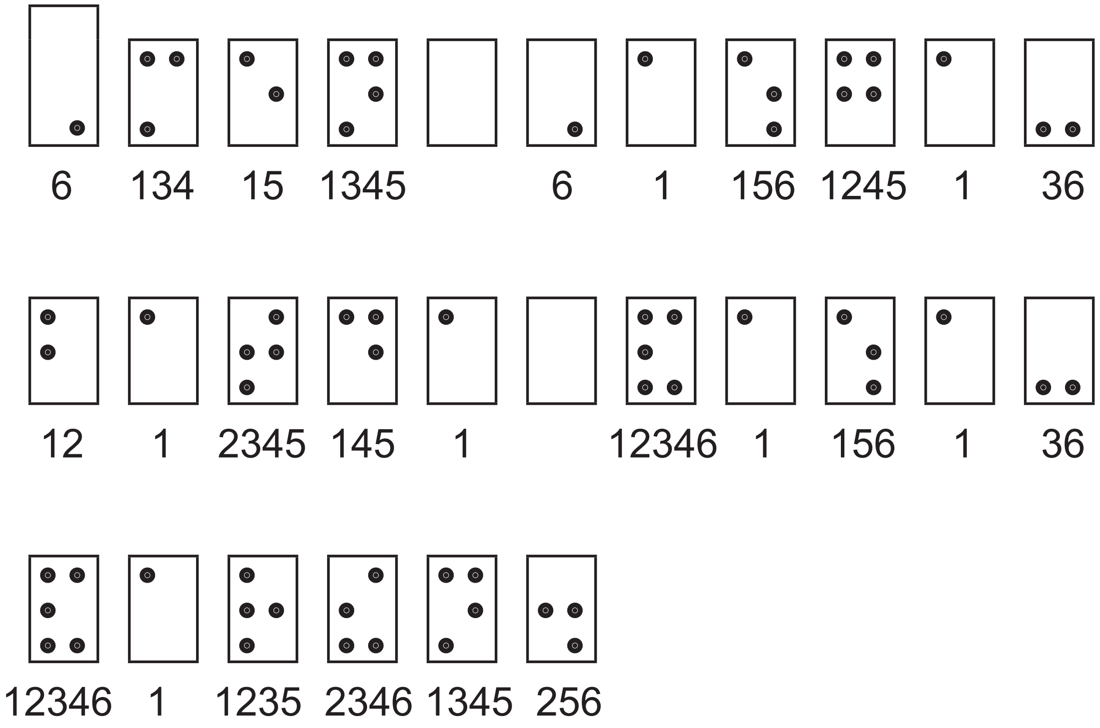
1.4. Güberçekli – nokat şekilli dyngy belgileriň ýazylyşy we düzgünleri



Baş harp belgisi – 6-njy nokat

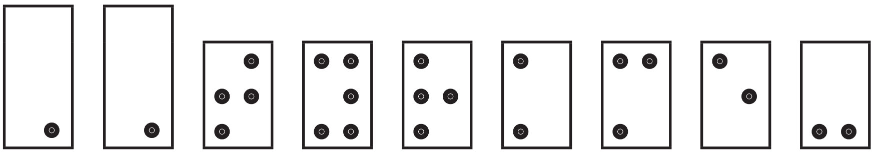
Belgi sözüň birinji harpyna goşulýar we onuň öňünde ýazylýar. Baş harp alamatynyň öňünden öýjük goýberilýär.

Mysal üçin: Men Aşgabatda ýaşaýaryn.

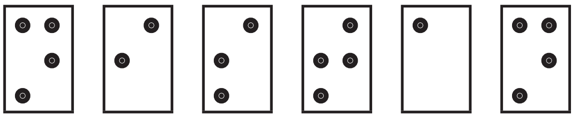


Bellik. Gollanmada hemme harpy baş harp bilen ýazylan sözde iki gezek baş harpyň belgisi goýulýar.

Mysal üçin: TÜRKMENISTAN

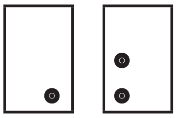


6 6 2345 13456 1235 13 134 15 36



1345 24 234 2345 1 1345

Nokatly otur belgisi
;

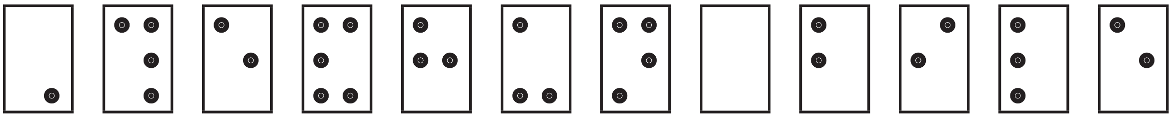


6-njy nokat
2-3-nji nokatlar

Nokatly otur sözüň soňky harpyna goşulýar. Nokatly oturdan soňra bir öýjük goýberilýär.

Mysal üçin:

Jeýhun bile bahry – Hazar arasy,
Çöl üstünden öser ýeli türkmeniň,
Gül – gunçasy, gara gözüm garasy,
Gara dagdan iner sili türkmeniň.



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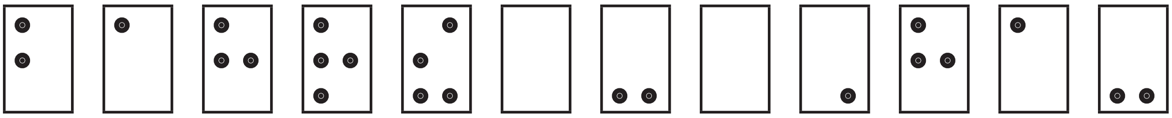
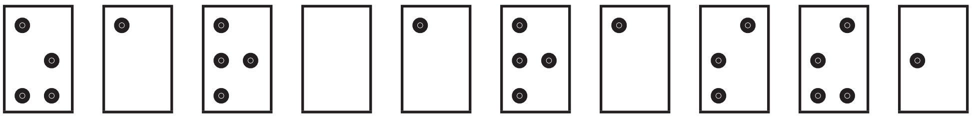


12 1 125 1235 2346 36 6 125 1 36



1356 1 1235 1 1235 1 234 2346 2

6 12345 1236 123   13456 234 2345 13456 1345 36

145 15 1345   1236 234 15 1235   12346 15 36

123 24   2345 13456 1235 13 134 15 36

1345 24 345 6 23

6 1245 13456 123   36   1245 136 1345 36

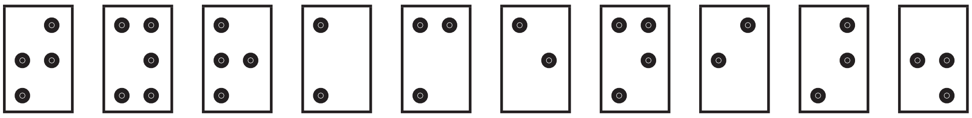
12345 1 234 2346 2   1245 1 1235 1

1245 1236 1356 13456 134   1245 1 1235 1 36

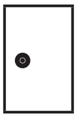
234 2346 2

6 1245 1 1235 1   145 1 1245 145 1 1345

24 1345 15 1235   234 24 123 24



2345 13456 1235 13 134 15 1345 24 345 256

Otur belgisi  2- nji nokat

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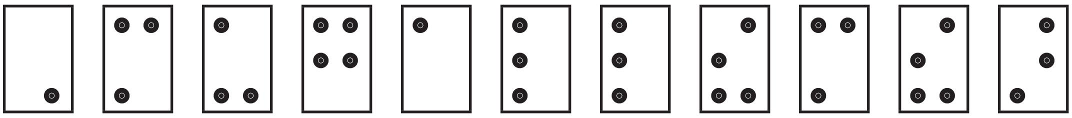
Otur belgisi sözlemiň içinde ýazylanda, sözüň soňky harpyna goşulýar, indiki ýazyljak sözüň öňünde öýjük goýberilýär.

Mysal üçin: Mugallymyň ady Maýa, familiýasy Saparowa.



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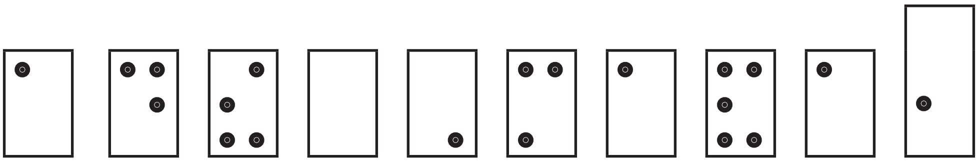
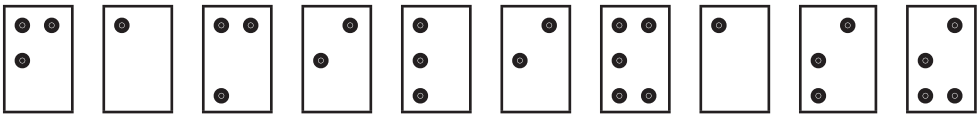
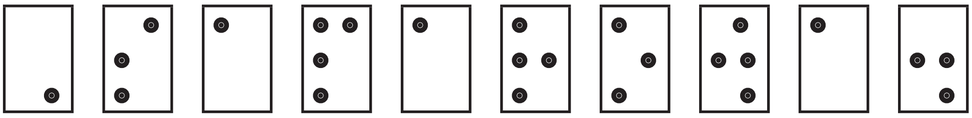


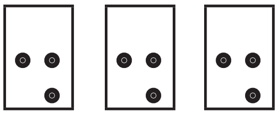
1 145 2346 6 134 1 12346 1 2



124 1 134 24 123 24 12346 1 234 2346



6 234 1 1234 1 1235 135 2456 1 256

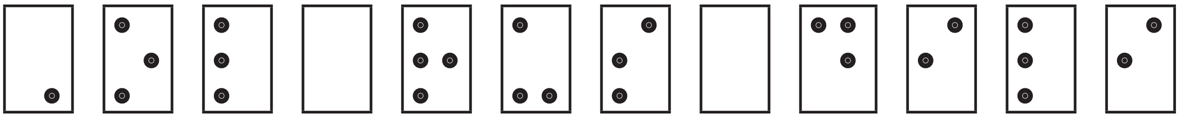
Köp nokat belgisi 

2–5–6-njy nokatlar
2–5–6-njy nokatlar
2–5–6-njy nokatlar

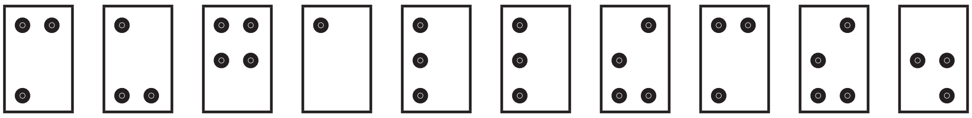
...

Köp nokat sözlemde soňky söze goşulýar. Köp nokatdan soňra öýjük goýberilýär.

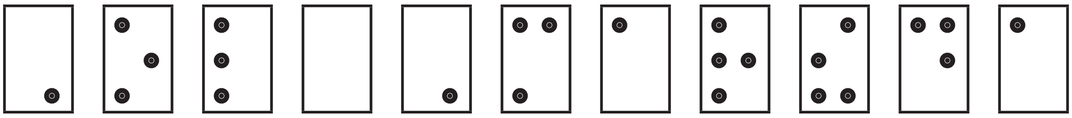
Mysal üçin: Ol rus dili mugallymy. Ol Maryda ýaşaýar...



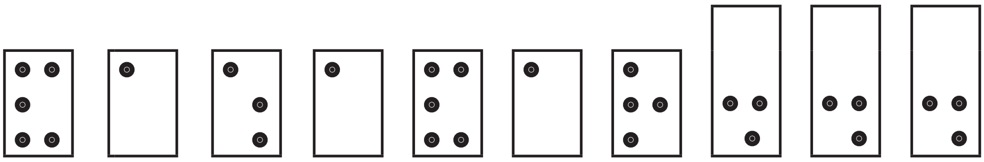
6 135 123 1235 136 234 145 24 123 24



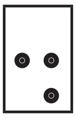
134 136 1245 1 123 123 2346 134 2346 256



6 135 123 6 134 1 1235 2346 145 1

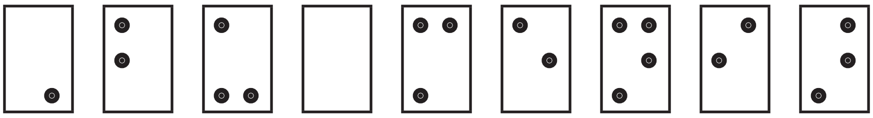


12346 1 156 1 12346 1 1235 256 256 256

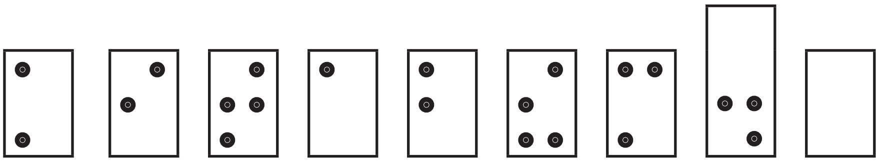
Nokat belgisi .  2–5–6-njy nokatlar

Nokat gönükmede sözlemdäki soňky sözden soň ýazylýar. Nokatdan soňra bir öýjük goýberilýär.

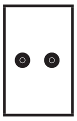
Mysal üçin: Bu meniň kitabym.



6 12 136 134 15 1345 24 345

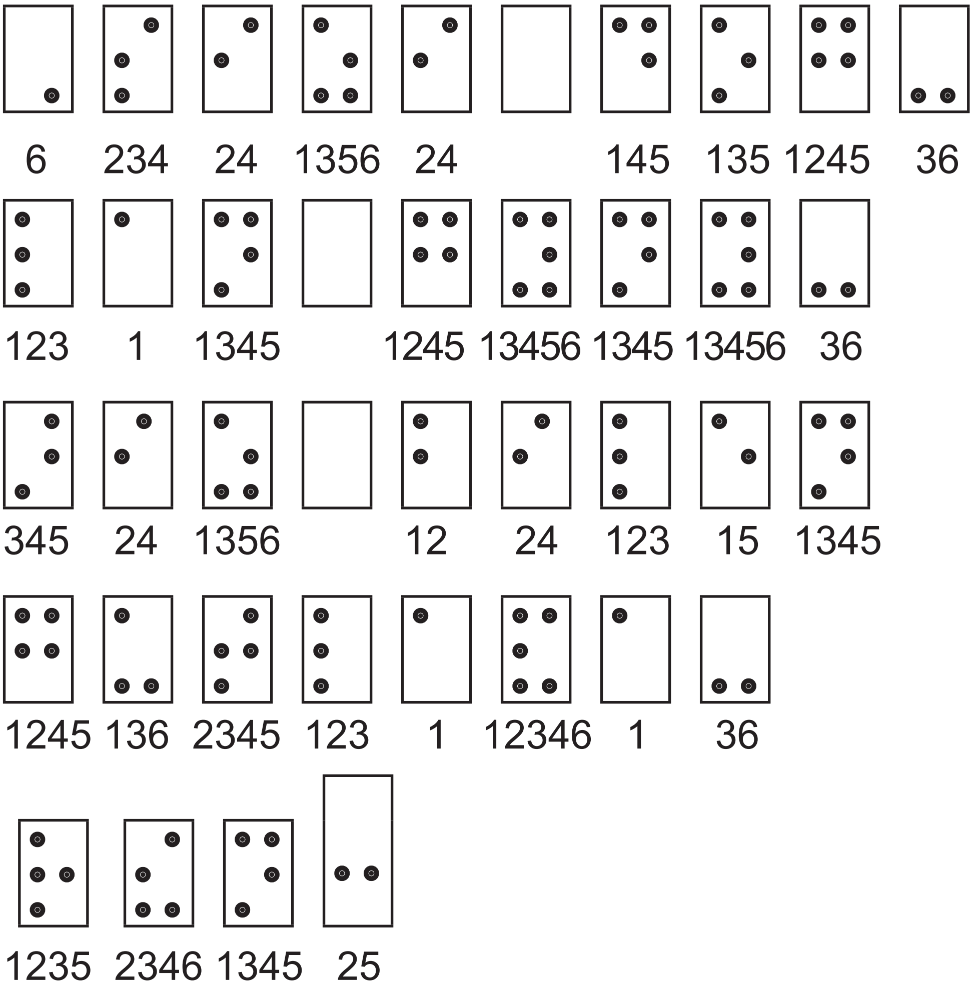


13 24 2345 1 12 2346 134 256

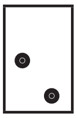
Iki nokat belgisi :  2-5-nji nokatlar

Iki nokat sözüň soňky harpyna goşulýar. Iki nokatdan soňra bir öýjük goýberilýär.

Mysal üçin: Sizi doglan günüňiz bilen gutlaýaryn:



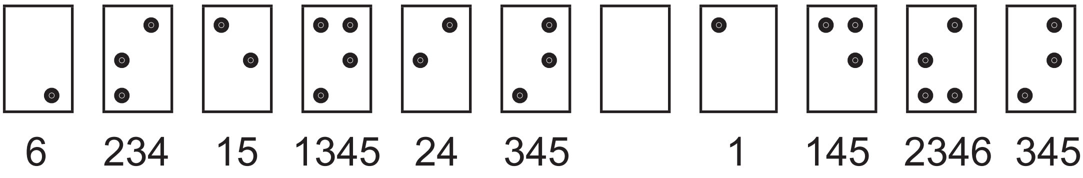
Sorag belgisi
?

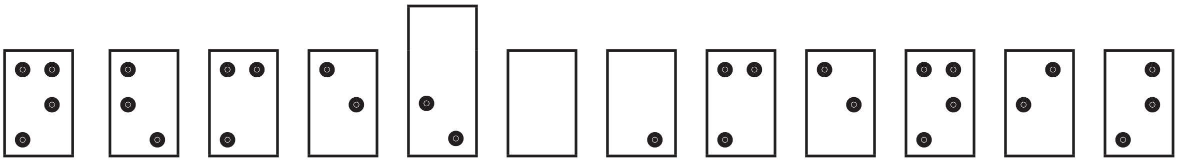


2–6-njy nokatlar

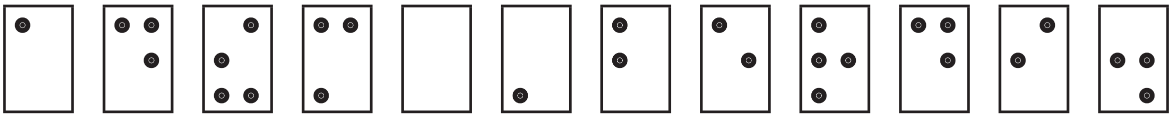
Sorag belgisi gönükmedäki sorag sözleminiň soňky sözüne goşulýar. Sorag belgisinden soňra bir öýjük goýberilýär.

Mysal üçin: Seniň adyň näme? Meniň adym Berdi.

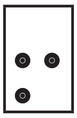




1345 126 134 15 26 6 134 15 1345 24 345



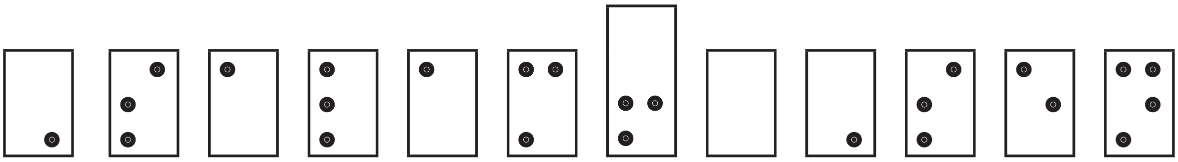
1 145 2346 134 6 12 15 1235 145 24 256

Ýüzlenme belgisi  2–3–5-nji nokatlar

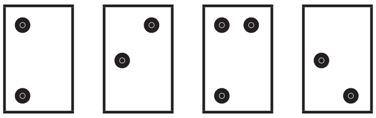
!

Ýüzlenme belgisi gönükmede soňky söze goşulýar. Ýüzlenme belgisinden soňra bir öýjük goýberilýär.

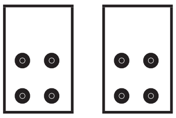
Mysal üçin: Salam! Sen kim?



6 234 1 123 1 134 235 6 234 15 1345



13 24 134 26

Ýaý belgisi  2–3–5–6-njy nokatlar

( ) 2–3–5–6-njy nokatlar

Açylýan we ýapylýan ýaý belgisi sözlemde ýaýlar (tekstiň sözleminde) içindäki mowzugyň başyndaky we soňundaky söze goşulýar.

Mysal üçin: Piljagaz bolsa (ýene-de örän edeplilik bilen) indi bir ýenjiläýmäýin diýip süýşüpdir.

6 1234 24 123 1456 1 1245 1 1356

12 135 123 234 1 2356 12346 15 1345 15 36

145 15 1236 1235 126 1345

15 145 15 1234 123 24 123 24 13

12 24 123 15 1345 2356 24 1345 145 24

12 24 1235 12346 15 1345 1456 24 36

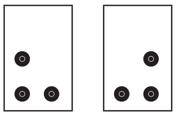
123 126 12346 134 126 12346 24 1345

145 24 12346 24 1234 234 13456 12346 36

156 13456 1234 145 24 1235 256

Goşa dyrnak belgisi açylanda «

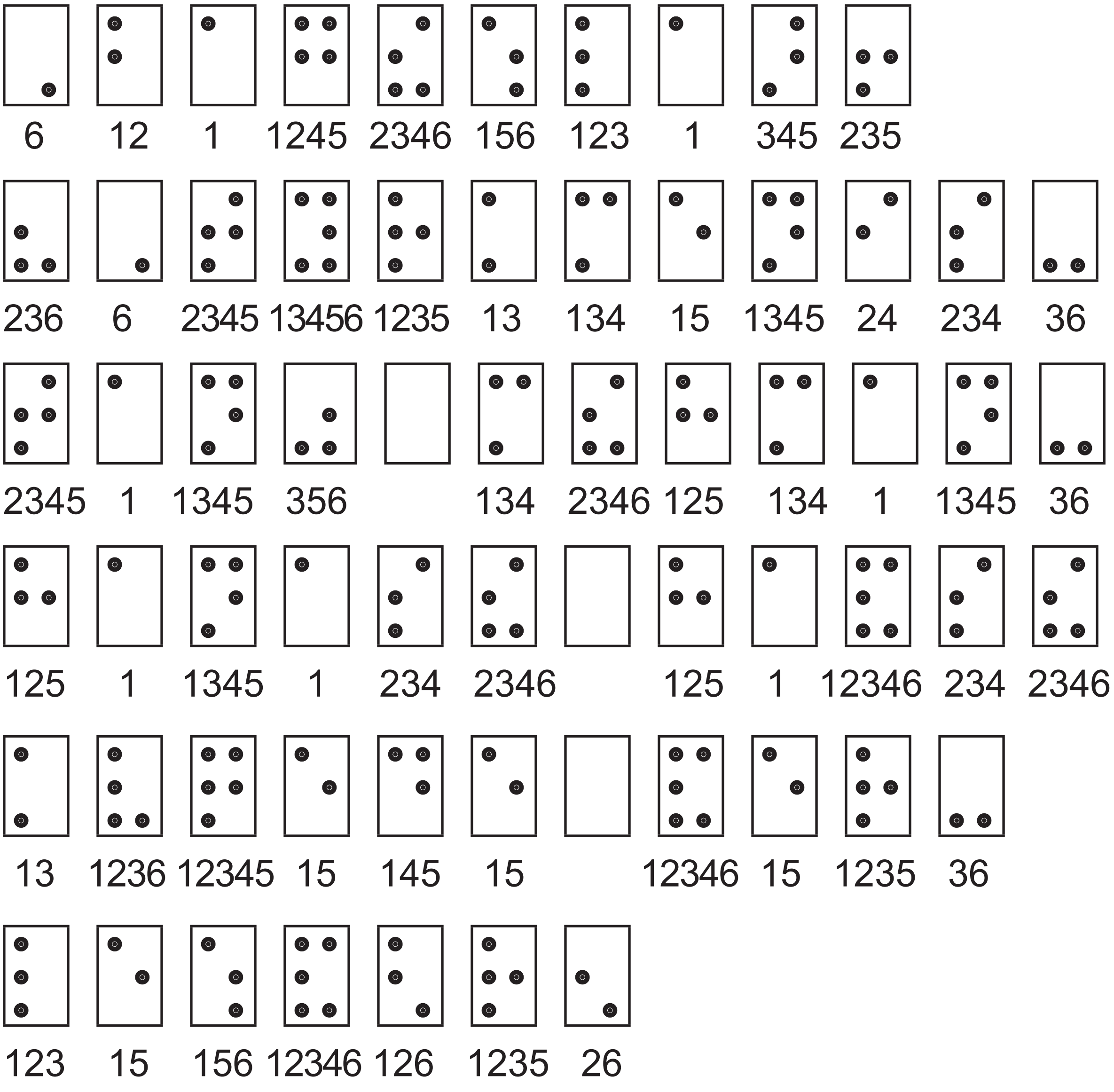
Goşa dyrnak belgisi ýapylanda »

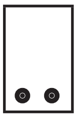


2–3–6-njy nokatlar
3–5–6-njy nokatlar

Goşa dyrnak belgisi bölünip aýrylýan mowzukdaky birinji we soňky harplara goşulýar.

Mysal üçin: Bagyşlaň! «Türkmenistan» myhmanhanasy haýsy köçede ýerleşýär?

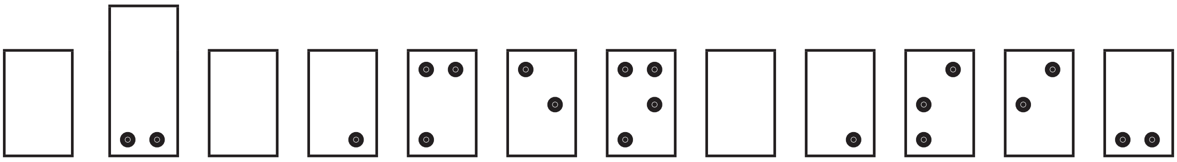


Kese çyzyk (tire)  3–6-njy nokatlar

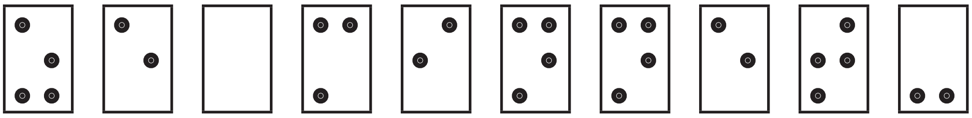
Kese çyzyk belgisi sözüň soňky harpyna goşulyp, onuň öňünden we soňundan bir öýjük goýberilýär.

Mysal üçin:

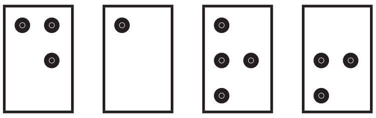
– Men Size minnetdar!



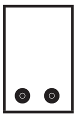
36 6 134 15 1345 6 234 24 36



1356 15 134 24 1345 1345 15 2345 36

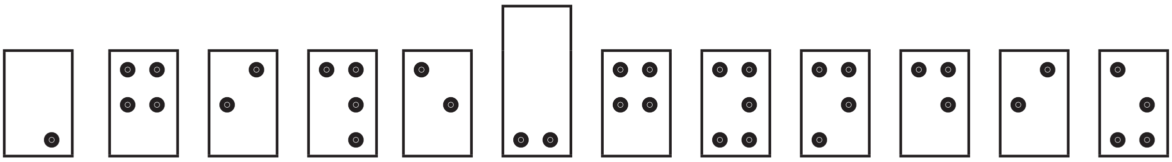


145 1 1235 235

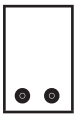
Kese çyzyk (defis)  3–6-njy nokatlar

Kese çyzyk belgisi geljek harpyň soňuna we indiki harpyň başyna goşulýar, öýjük goýberilmeýär.

Mysal üçin: Gije-gündiz

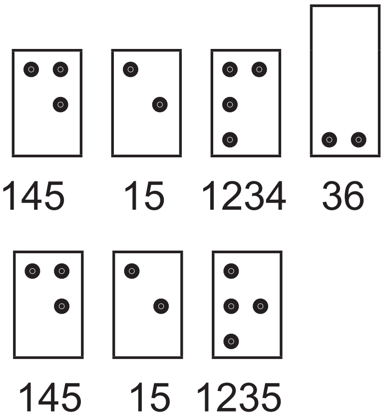


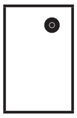
6 1245 24 1456 15 36 1245 13456 1345 145 24 1356

Setirden-setire geçmek (bogun belgisi)  3–6-njy nokatlar

Söz bogna bölünende, bogun belginiň öňünde we yzynda öýjük goýberilmeýär.

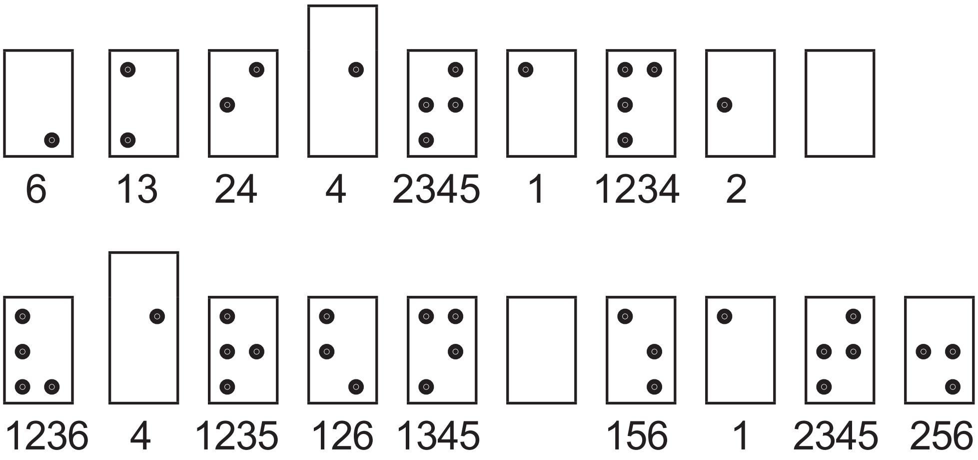
Mysal üçin: dep-
der



Basym belgisi  4-nji nokat

Sözleriň bellibir bognunyň batlyrak, sesiň basylyp aýdylmagyna basym diýilýär. Braýl ulgamynda basym belgisi sözde zarply çekimli harpyň öňünden goşulýar, öýjük goýberilmeýär.

Mysal üçin: Kitap, örän şat.



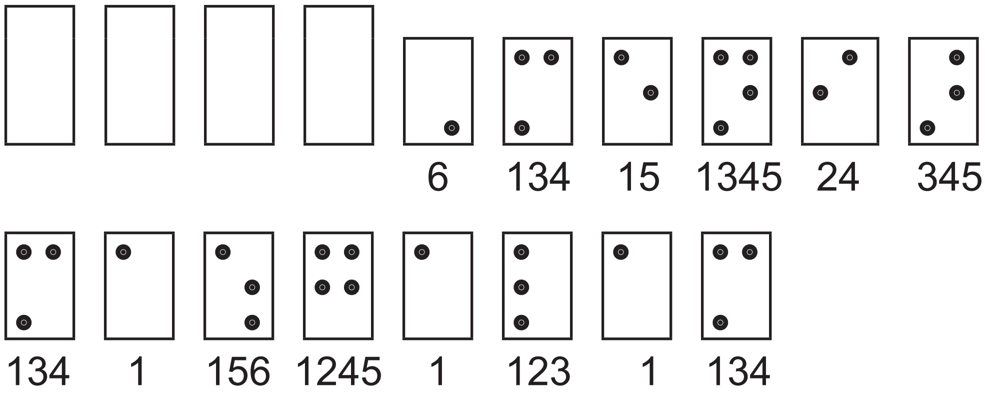
1.5. Güberçekli – nokat şekilli teksti bezemek

Tekstiň adyny ýazmak

Tekstiň adyny ýazmak üçin setiriň başlaýan ýerinde 4 sany öýjük goýbermek zerurdyr.

Mysal üçin:

Meniň maşgalam

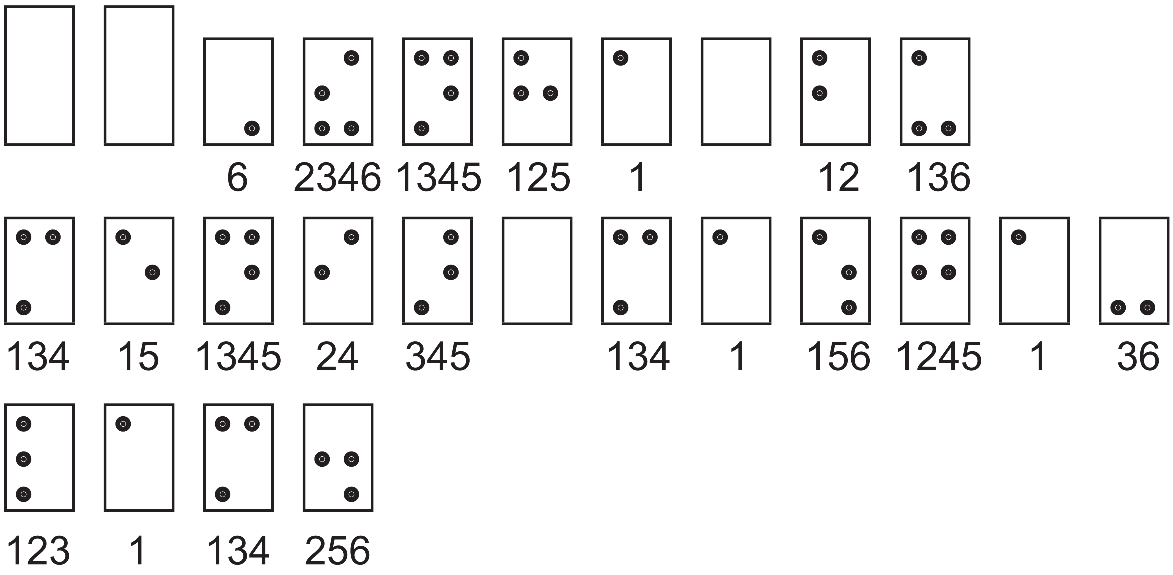


Abzasyň ýazylyşy

Teksti abzasdan ýazmak üçin, iki öýjügi setiriň başynda goýbermeli.

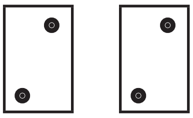
Mysal üçin:

Ynha, bu meniň maşgalam.



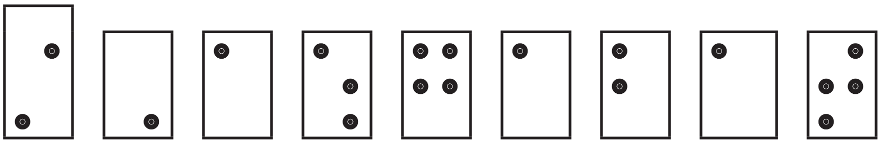
Sözleriň has gara harplar bilen ýazylyşy

Kitaplarda sözleriň gara harplar bilen bellige alnyp görkezilişi

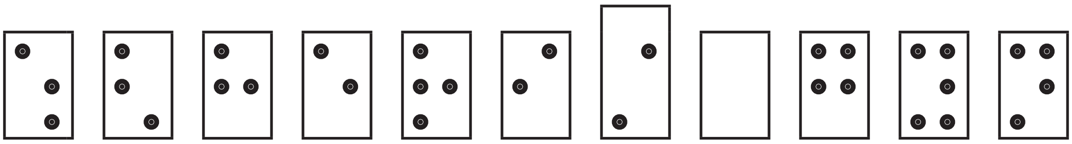


3–4-nji nokatlar
3–4-nji nokatlar

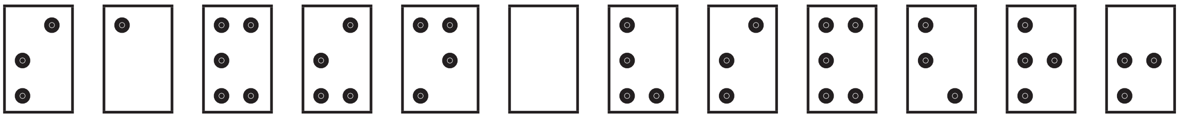
Mysal üçin: Aşgabat şäheri günsaýyn ösýär.



34 6 1 156 1245 1 12 1 2345



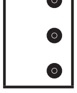
156 126 125 15 1235 24 34 1245 13456 1345



234 1 12346 2346 1345 1236 234 12346 126 1235 256

Ýalňyşlyk belgisiniň ýazylyşy

Ýalňyşlygyň bellige alynýan alamaty

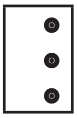
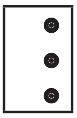


4–5–6-njy nokatlar

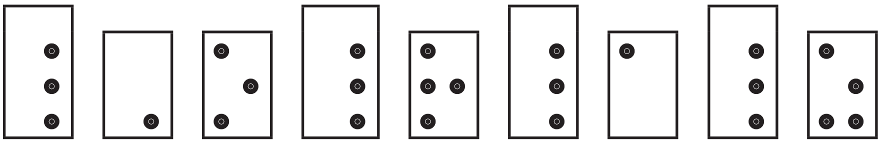
Okuwçylaryň depderinde, ýalňyşlyk goýberilen zolagynda mugallym tarapyndan ýalňyşlyk belgisi goýulýar (enjamyň daşyndan bellenilýär).

1.6. Güberçekli – nokat şekilli çekimli we çekimsiz sesleriň gönükme işlenende bellige alnyşy

Ýogyn çekimli sesler: A, O, U, Y

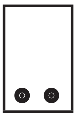
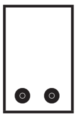
 4–5–6-njy nokatlar  4–5–6-njy nokatlar

Mysal üçin: Oraz

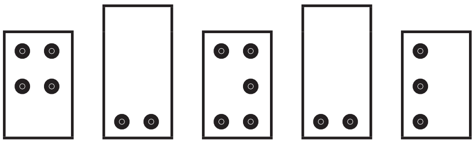


456 6 135 456 1235 456 1 456 1356

Inçe çekimli sesler: Ä, Ö, Ü, I, E

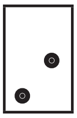
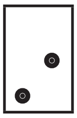
 3–6-njy nokatlar  3–6-njy nokatlar

Mysal üçin: Gül

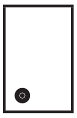
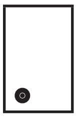


1245 36 13456 36 123

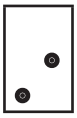
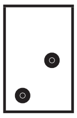
Açyk sesler: G, B, D, J

 3–5-nji nokatlar  3–5-nji nokatlar

Dymyk sesler: K, P, T, Ç

 3-nji nokat  3-nji nokat

Dodak çekimli sesler: O, Ö, U, Ü

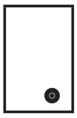
 3–5-nji nokatlar  3–5-nji nokatlar

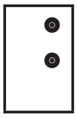
1.7. ELIPBIÝLER

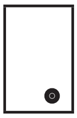
W.Ý.Ýeroşenko (1889–1952) Russiýa Federasiýasynyň Kursk guberniýasynyň Obuhow obasynda 1889-njy ýylyň 31-nji dekabrynda eneden dogulýar. Ol dört ýaşynda görmekden mahrum bolýar. Wasiliý Ýakowlewiç Ýeroşenko lingwist, ýazyjy, tiflopedagog. 1934-nji ýylda ol Türkmenistana gelýär. Onuň ýardam etmegi bilen 1935-nji ýylda Serhetabat (öňki Guşgy) şäheriniň golaýyndaky Margunowka obasynda ýurt boýunça kör çagalar öýi açylýar. Ol şol çagalar öýünde ýolbaşçy bolup 11 ýyl işleýär. Işlän döwründe ol türkmen elipbiýiniň braýl ulgamyny döredýär. W.Ý.Ýeroşenko türkmen elipbiýini braýlyň güberçekli – nokat şekilli ulgamynda döreden ilkinji tiflopedagogdyr.

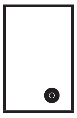
W.Ý.Ýeroşenko kör türkmen çagalary üçin güberçekli – nokat şekilli okuw kitabynyň awtory bolmak bilen, onuň öz wagtynda neşir edilmegini gazanýar. Häzirki wagtda Aşgabatda W.Ý.Ýeroşenkonyň okuwçysy Nurym Mommyýew ýaşaýar. Ol Türkmenistanyň körler jemgyýetiniň weterany hem-de köp ýyllap kör we çala görýän çagalaryň mekdep-internatynda mugallym bolup işledi.

Elipbiýleriň alamaty

1. Türkmen elipbiýiniň belligi hem-de baş harpynyň alamaty  6-njy nokat

2. Rus elipbiýiniň belligi hem-de baş harpynyň alamaty  4–5-nji nokat-lar

3. Iňlis elipbiýiniň belligi hem-de baş harpynyň alamaty  6-njy nokat

4. Türk elipbiýiniň belligi hem-de baş harpynyň alamaty  6-njy nokat

Braýlyň ulgamynda nokat şriftinde elipbiýleriň aýratynlygyny görkezýän belliklere elipbiýleriň şrift alamatlary diýilýär. Elipbiýleriň alamaty harpyň öňündäki öýjükde ýazylýar.

3. Sargyt № 285

TÜRKMEN ELIPBIÝI (30 harp)

Aa 1	Bb 12	Çç 12345	Dd 145	Ee 15
Ää 126	Ff 124	Gg 1245	Hh 125	Ii 24
Jj 1456	Žž 245	Kk 13	Ll 123	Mm 134
Nn 1345	Ňň 345	Oo 135	Öö 1236	Pp 1234
Rr 1235	Ss 234	Şş 156	Tt 2345	Uu 136
Üü 13456	Ww 2456	Yy 2346	Ýý 12346	Zz 1356

RUS ELIPBIÝI (33 harp)

Аа 1	Бб 12	Вв 2456	Гг 1245	Дд 145
Ее 15	Ёё 16	Жж 245	Зз 1356	Ии 24
Йй 12346	К к 13	Лл 123	Мм 134	Нн 1345
Оо 135	Пп 1234	Р р 1235	Сс 234	Тт 2345
Уу 136	Фф 124	Хх 125	Ц ц 14	Чч 12345
Шш 156	Щщ 1436	Ъъ 12356	Ыы 2346	Ь ь 23456
Ээ 246	Юю 1256	Яя 1246		

IŇLIS ELIPBIÝI (26 harp)

Harp	Okalyşy	Nokatlar
Aa	[eý]	1
Bb	[bi]	12
Cc	[si]	14
Dd	[di]	145
Ee	[i]	15
Ff	[ef]	124
Gg	[ji]	1245
Hh	[eýç]	125
Ii	[aý]	24
Jj	[jeý]	245
Kk	[keý]	13
Ll	[el]	123
Mm	[em]	134
Nn	[en]	1345
Oo	[ou]	135
Pp	[pi]	1234
Qq	[kýu]	12345
Rr	[ar]	1235
Ss	[es]	234
Tt	[ti]	2345
Uu	[ýu]	136
Vv	[wi]	1236
Ww	[dablýu]	2456
Xx	[eks]	1346
Yy	[uaý]	13456
Zz	[zet]	1356

TÜRK ELIPBIÝI (29 harp)

Aa 1	Bb 12	Cc 14	Çç 16	Dd 145
Ee 15	Ff 124	Gg 1245	Ğğ 126	Hh 124
İi Inçe 24	Iı 35	Jj 245	Kk 13	Ll 123
Mm 134	Nn 1345	Oo 135	Öö 246	Pp 1234
Rr 1235	Ss 234	Şş 146	Tt 2345	Uu 136
Üü 1256	Vv 1236	Yy 13456	Zz 1356	
Ââ Çekim belgisi goýlan harp 345	Î î Çekim belgisi goýlan harp 34	Ûû Çekim belgisi goýlan harp 156		

ARAP ELIPBIÝI (28 harp)

Harp	Nokatlar	Ady
ا	1	elif
ب	12	bä
ت	2345	tä
ث	1456	sä
ج	245	jiým
ح	156	hä
خ	1346	ho
د	145	dal
ذ	2346	zal
ر	1235	ro
ز	1356	zä
س	234	siýn
ش	146	şiýn
ص	12346	sod
ض	1246	dzod
ط	23456	toý
ظ	123456	zoý
ع	12356	aýyn
غ	126	Gaýyn
ف	124	fii
ق	12345	koof
ك	13	kääf
ل	123	lääm
م	134	miým
ن	1345	nuun
و	2456	waaw
ه	125	he
ال	1236	läm elif
ي	24	ýä
ى	135	Döwlen elif
ة	16	Togalak tä

1.8. Okuw tifloenjamlary

Görmekden mahrum bolan adam maglumatlary almakda kynçylyk çekýär. Gazetleri, žurnallary we kitaplary okamak mümkinçiligi bolmaýar. Şeýle ýagdaýlarda adamlara braýlyň güberçekli – nokat şekilli ulgamy boýunça tifloenjamlar arkaly okamaga kömek edilýär.

Mysal üçin, Lui Braýlyň güberçekli – nokat şekilli ýazgysy üçin ulanylýan okuw enjamy braýl ulgamynda ýazgy üçin ulanylýan grifeldir.

Grifel ýiti uçly demir simden, tutawajy plastmassadan ýa-da agaçdan ýasalýar. Grifel dürli görnüşde bolup bilýär. Çagalar üçin kiçiräk tutawaçly, tegelek deşikli görnüşde bolup biler.

4-nji surat. Grifelleriň görnüşleri

Braýl ulgamy boýunça harplary ýazmak üçin ýörite ýazuw enjamy ulanylýar. Bu ýazuw enjamy üç sany demir plastikadan ýasalyp, olaryň iki sanysy petle bilen birleşdirilip, açylyp ýapylýar. Bu enjam 6, 9, 18, 24 setirli bolup

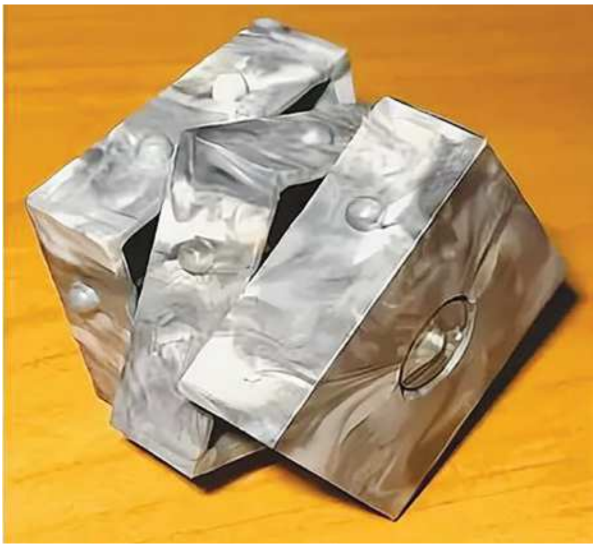
bilýär. Mekdeplerde ulanylýan 18 setirli 24 gözenekli enjam okuwçylar üçin örän amatlydyr. Onuň gapajygynyň sag tarapyndan her setiriň aralygynda güberçekli – nokat şekilli 1den 9-a çenli sanlar ýazylanda, sanlar okuwçylara setirleri çen bilen kesgitlemäge kömek edýär.

5-nji surat. Okuw enjamy

Kubik harp

Kubik harp braýlyň ulgamyny öwrenmek üçin göz öňünde tutulandyr. Onuň güberçekli nokadynyň göwrümi bolan, aşakdaky üç hereketli elementleriniň kömegi bilen braýl ulgamy boýunça harp ýa-da belgi düzmek bolar.

Güberçekli nokadynyň ölçegi, *mm*........ 3 x 1,5
Güberçek nokatlarynyň aralygy, *mm*.......... 10
Ölçeg göwrümi, *mm* .... .34 x 34 x 30



6-njy surat. Kubik harp

Sökülip – düzülýän harplyk

Sökülip – düzülýän harplyk braýl ulgamyny öwrenmek üçin göz öňüne tutulandyr. Plankada ştiftleriň kömegi bilen san, harp we söz ýygyndysyny geçirmek bolar. Plankalar agaçdan, plastmassadan ýasalandyr. Harplyk polimer planka gapda gaplanýar.

Plankada gözenekleriň mukdary, *sany*..........10

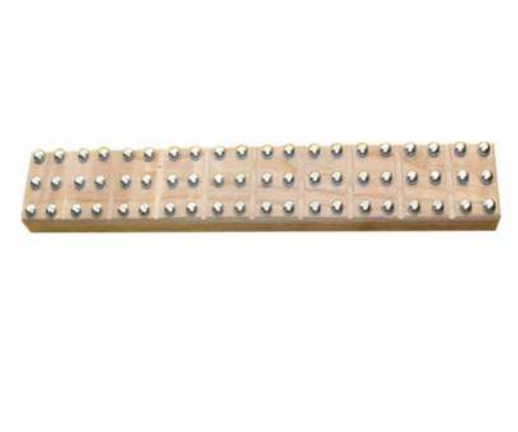
Gözenekleriň ölçegi, *mm*........................ 33 x 49

Ştiftleriň mukdary, *sany* 60

Ştiftleriň uzynlygy, *mm* 18,5

Ştiftiň ýarym şar gapagynyň diametri, *mm* 9

Ölçeg göwrümi, *mm*............................348 x 49 x 17



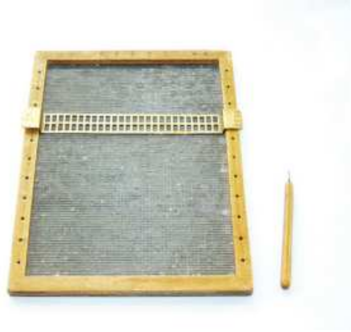
7-nji surat. Sökülip – düzülýän harplyk

Surat çekmek üçin «okuwçy» güberçekli – nokat şekilli enjam

Surat çekmek üçin «okuwçy» güberçekli – nokat şekilli enjam görmeýän we gowşak görýän çagalaryň mekdeplerde matematika, surat we çyzuw derslerinde peýdalanmaklary üçin göz öňünde tutulandyr. Güberçekli çyzgy lawsandan edilen plýonkada şarikli ruçka bilen amala aşyrylýar.

Onuň işçi meýdanynyň möçberi, *mm*.............211x144

Ölçeg göwrümi, *mm* 242x185x5

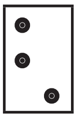


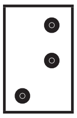
8-nji surat. surat çekmek üçin enjam «okuwçy» güberçekli – nokat şekilli

1.9. Güberçekli – nokat şekilli sözlemiň baş agzalarynyň ýazylyşy

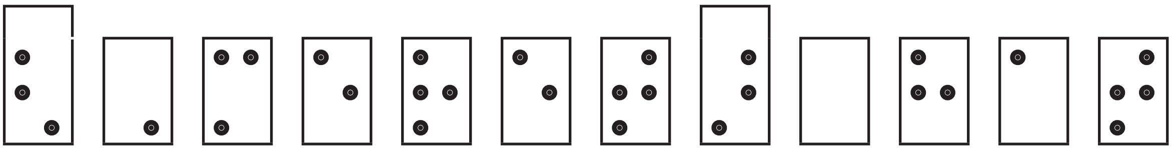
Sözlemde sözleriň baş agzalary eýe we habar sözleminiň braýl ulgamynda güberçekli – nokat şekilli goýulýan alamatlaryň ýazylyşy:

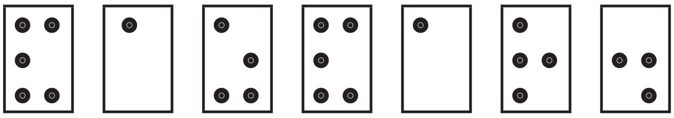
1. Eýe sözlemde sözüň iki tarapynda alamatlaryň arasynda ýazylýar, öýjük goýberilmeýär.


1–2–6-njy nokatlar

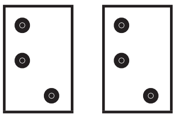

3–4–5-nji nokatlar

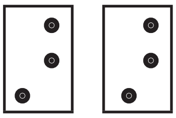
Mysal üçin: Meret hat ýazýar.


126 6 134 15 1235 15 2345 345 125 1 2345


12346 1 1356 12346 1 1235 256

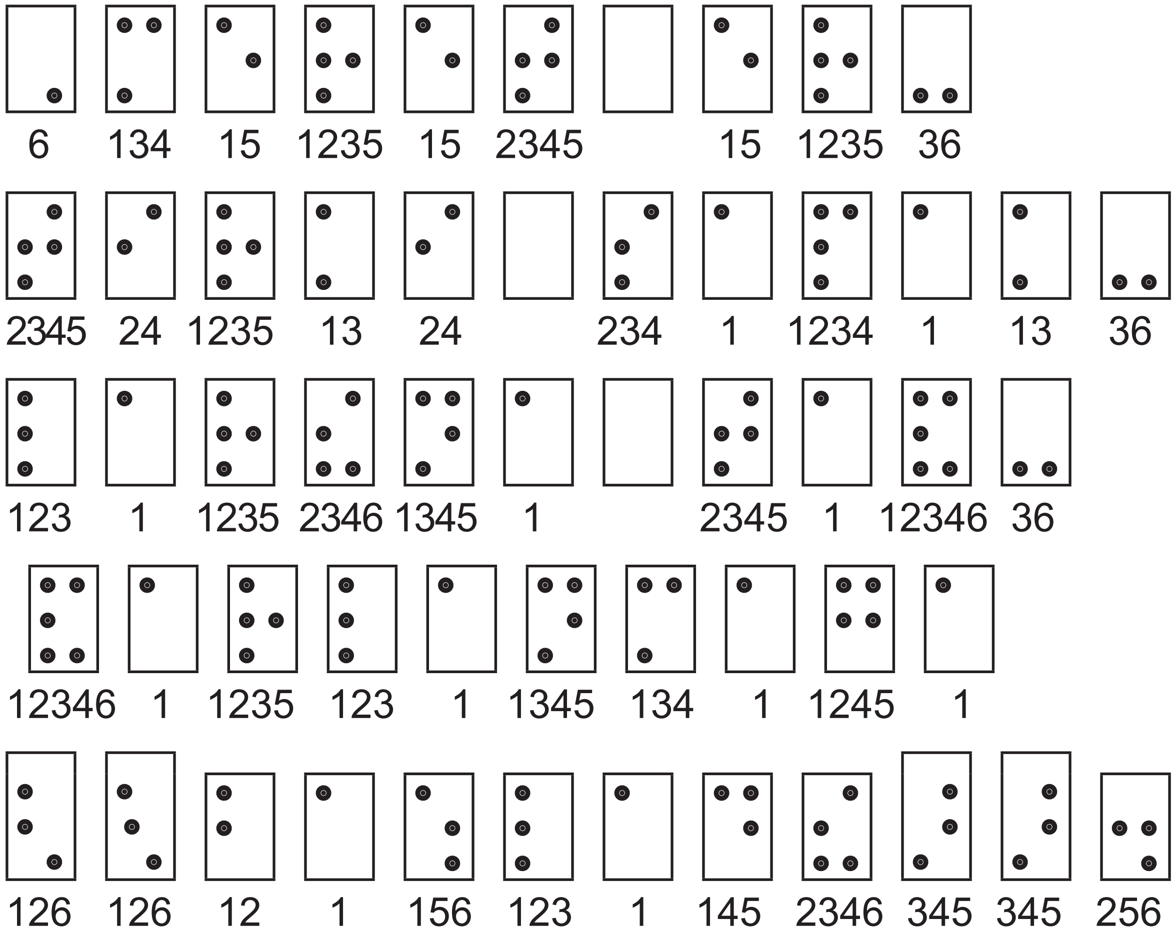
2. Habar sözlemde iki sany alamat bilen bellenilýär, sözüň iki tarapynda ýazylýar, öýjük goýberilmeýär.


1–2–6-njy nokatlar
1–2–6-njy nokatlar


3–4–5-nji nokatlar
3–4–5-nji nokatlar

Mysal üçin:

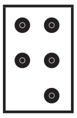
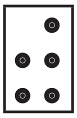
Meret ertirki sapaklaryna taýýarlanmaga başlady.



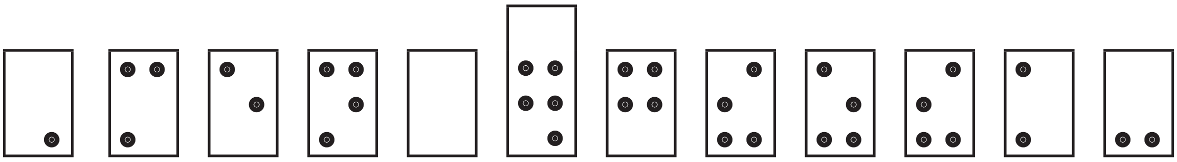
1.10. Güberçekli – nokat şekilli sözlemiň aýyklaýjy agzalarynyň ýazylyşy

Aýyklaýjylar aýyrgyçlar, doldurgyçlar diýen topara bölünýär. Braýl ulgamynda güberçekli – nokat şekilli goýulýan alamatlaryň ýazylyşy:

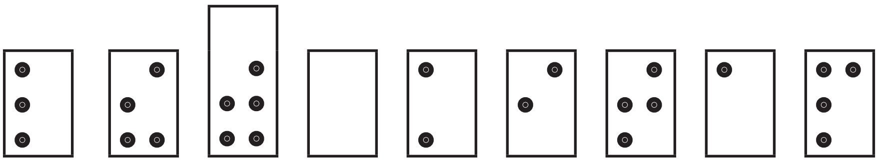
1. Aýyrgyç takyk kesgitli belgi sözlemde ýazylanda, ol iki sany belginiň arasynda ýazylýar, öýjük goýberilmeýär.

 1–2–4–5–6-njy nokatlar  2–3–4–5–6-njy nokatlar

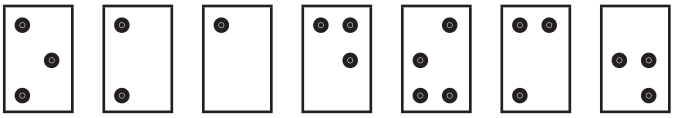
Mysal üçin: Men gyzykly kitap okadym.



6 134 15 1345 12456 1245 2346 1356 2346 13 36

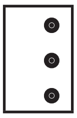
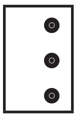


123 2346 23456 13 24 2345 1 1234

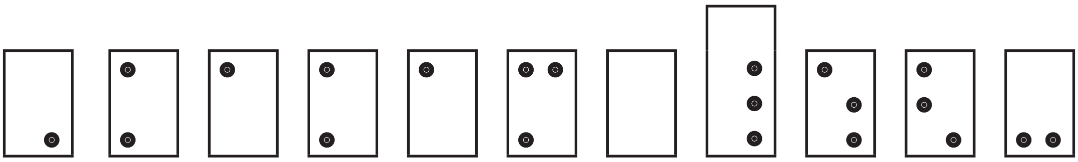


135 13 1 145 2346 134 256

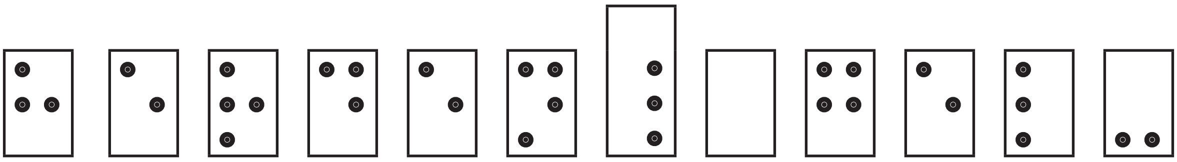
2. Doldurgyçlar sözlemde sözüň iki tarapynda bellikleriň arasynda ýazylýar, öýjük goýberilmeýär.

 4–5–6-njy nokatlar  4–5–6-njy nokatlar

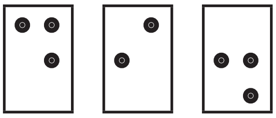
Mysal üçin: Kakam şäherden geldi.



6 13 1 13 1 134 456 156 126 36



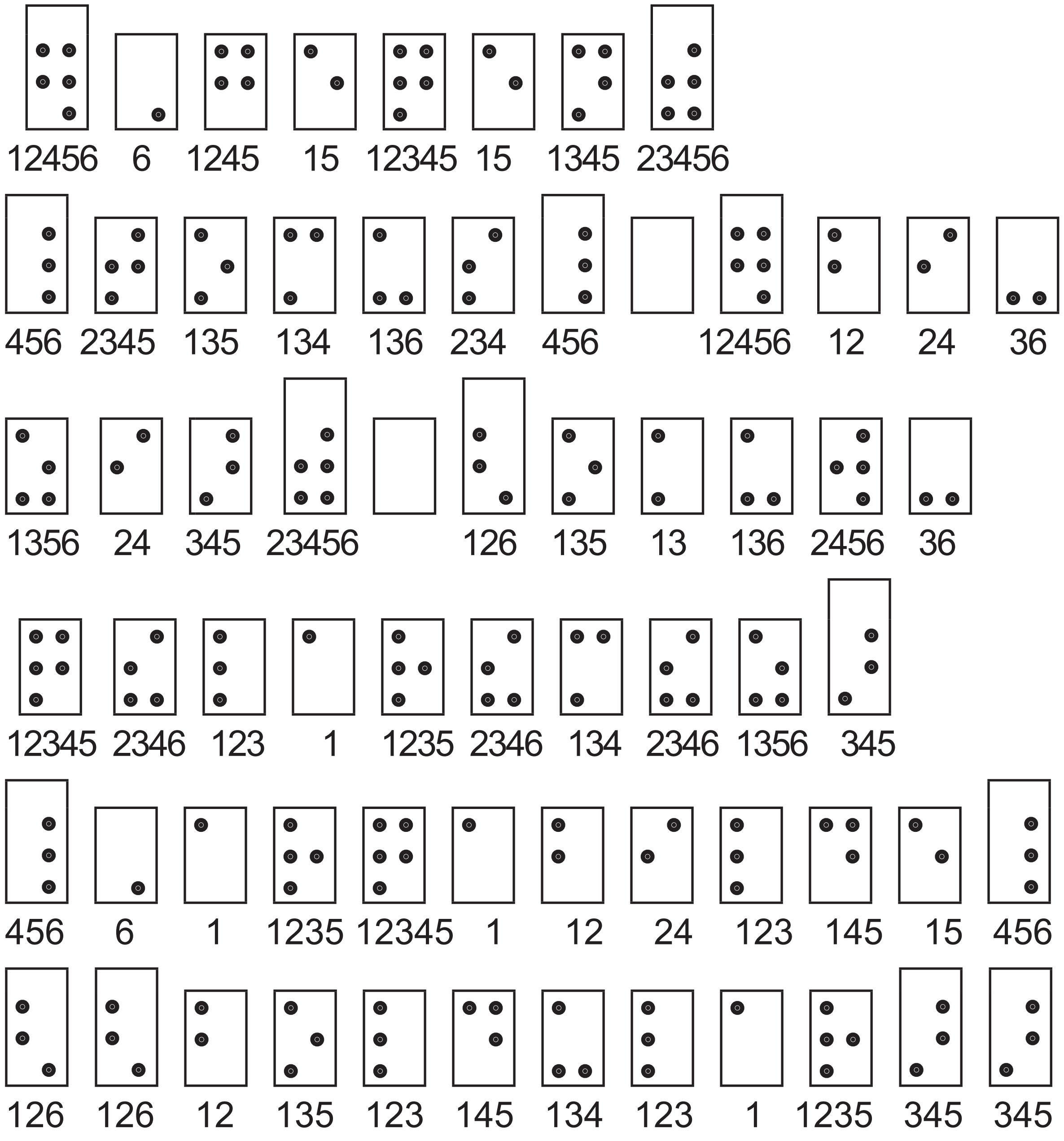
125 15 1235 145 15 1345 456 1245 15 123 36



145 24 256

3. Sözlemleri sintaktik taýdan braýl ulgamynda derňemek.

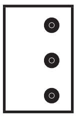
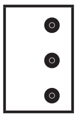
Mysal üçin: Geçen tomus biziň okuwçylarymyz Arçabilde boldular.



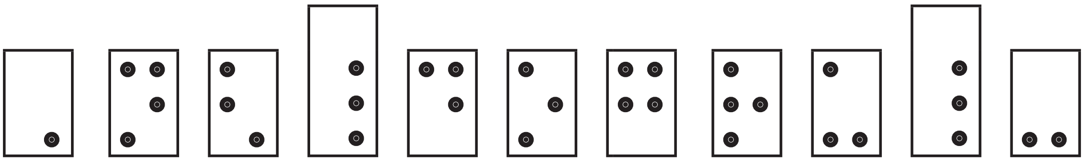
1.11. Güberçekli – nokat şekilli asyl, düýp söz we goşulmalarynyň ýazylyşy

Braýl ulgamynda sözlemde sözler, goşulmalar şu alamatlaryň kömegi bilen derňew edip görkezilýär:

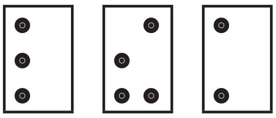
1. Sözleriň özbaşdak many aňladýan bölegine asyl söz diýilýär. Asyl sözi iki belligiň arasynda görkezilýär, öýjük goýberilmeýär.

 4-5-6-njy nokatlar  4-5-6-njy nokatlar

Mysal üçin: Nä|dogru|lyk

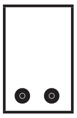


6 1345 126 456 145 135 1245 1235 134 456 36

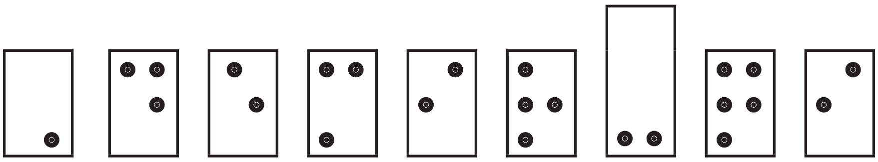


123 2346 13

2. Sözüň özbaşdak many aňlatmaýan bölegine goşulma diýilýär. Goşulma asyl sözlere goşulyp ulanylýar. Goşulmanyň öňünde güberçekli – nokat şekilli kese çyzyk belgisi ýazylýar, öýjük goýberilmeýär.

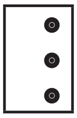
 3–6-njy nokatlar

Mysal üçin: Demir-çi

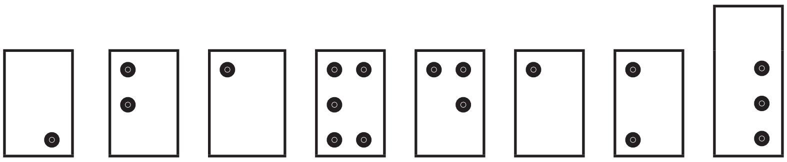


6 145 15 134 24 1235 36 12345 24

3. Sözüň söz üýtgediji goşulmalary aýrylanda, galýan bölegine düýp söz diýilýär. Braýl ulgamynda düýp sözi görkezmek üçin belgi ýazylýar, öýjük goýberilmeýär.

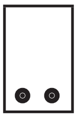
 4–5–6-njy nokatlar

Mysal üçin: baýdak|

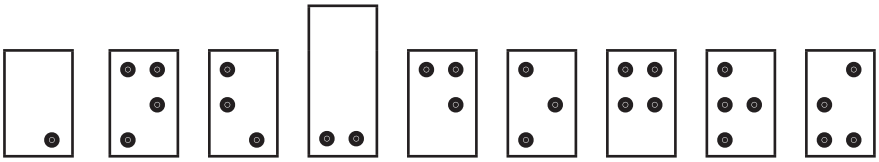


6 12 1 12346 145 1 13 456

4. Sözüň öňünden goşulma güberçekli – nokat şekilli kese çyzyk arkaly kesgitlenip görkezilýär, öýjük goýberilmeýär.

 3–6-njy nokatlar

Mysal üçin: Nä-dogry

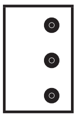
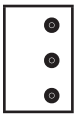


6 1345 126 36 145 135 1245 1235 2346

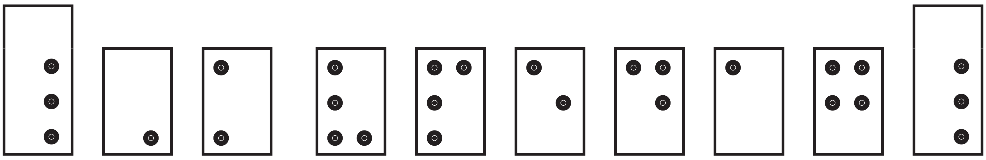
1.12. Güberçekli – nokat şekilli has we jyns atlaryň ýazylyşy

Has we jyns atlaryň bellige alnyşy

4–5–6-njy nokatlar has we jyns atlaryň öňünde we soňunda ýazylýar, öýjük goýberilmeýär.

 4–5–6-njy nokatlar  4–5–6-njy nokatlar

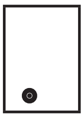
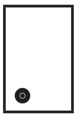
Mysal üçin: Köpetdag



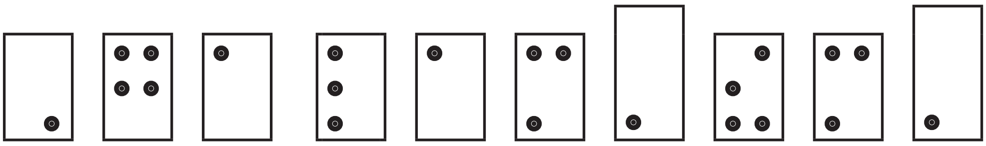
456 6 13 1236 1234 15 145 1 1245 456

1.13. Güberçekli – nokat şekilli atlaryň ýöňkeme, düşüm we işlikleriň zaman goşulmalarynyň bellige alnyşy

1. Braýl ulgamynda güberçekli – nokat şekilli atlaryň ýöňkeme goşulmalaryny belginiň içine almak (ýazylanda öňünde we soňunda öýjük goýberilmeýär).

 3-nji nokat  3-nji nokat

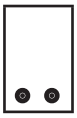
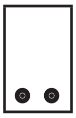
Mysal üçin: Galamym



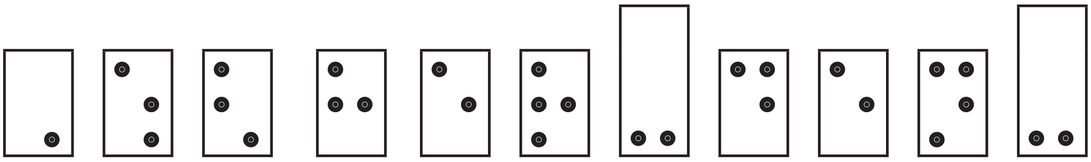
6 1245 1 123 1 134 3 2346 134 3

2. Braýl ulgamynda güberçekli – nokat şekilli düşüm goşulmalaryny belginiň içine almak (ýazylanda öňünde we soňunda öýjük goýberilmeýär).

4. Sargyt № 285

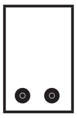
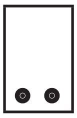
 3–6-njy nokatlar  3–6-njy nokatlar

Mysal üçin: Şäherden

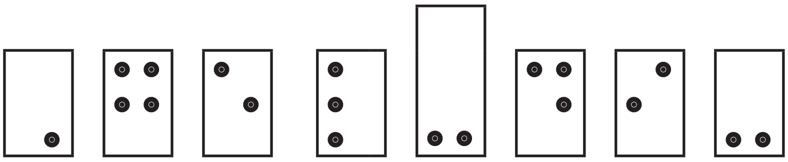


6 156 126 125 15 1235 36 145 15 1345 36

3. Braýl ulgamynda güberçekli – nokat şekilli işlikleriň zaman goşulmalaryny belginiň içine almak (ýazylanda öňünde we soňunda öýjük goýberilmeýär)

 3–6-njy nokatlar  3–6-njy nokatlar

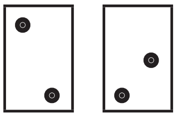
Mysal üçin: Geldi



6 1245 15 123 36 145 24 36

1.14. Türkmen dili okuw kitaplarynda güberçekli – nokat şekilli şertli belgileriň ýazylyşy

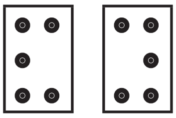
Şertli belgiler:

Goşmaça ýumuşlar 

16 35

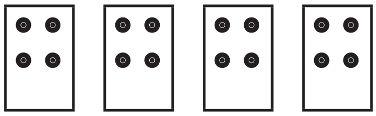
Ýazylyşy kynrak hasap edilen sözler çarçuwanyň (ramkanyň) içine alynýar.

Ýatdan öwrenmek üçin ýumuş

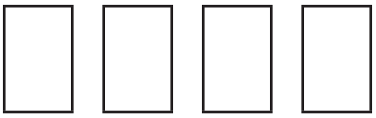


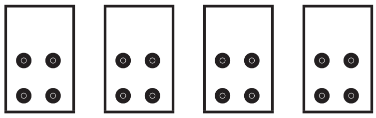
12346 13456

Hökmany öwrenmeli kadalar



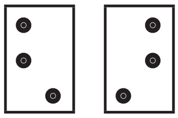
1245 1245 1245 1245





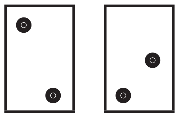
2356 2356 2356 2356

Täze tema



126 345

Ýumuşlar



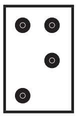
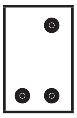
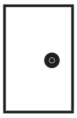
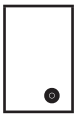
16 35

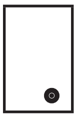
II BÖLÜM

Matematikada ýazylýan braýl ulgamyndaky güberçekli – nokat şekilli alamatlar, görkezmeler

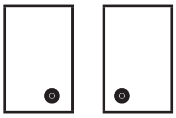
Braýl ulgamynda algebra, fizika, himiýa, astronomiýa derslerinde alamatlar, formulalar, görkezmeler, matematika ýazgysy tekst ýaly ýazylýar. Galan söz bilen ýazylan her bir matematika degişli däl ýazgylar edebiýat tekstine degişlidir.

2.1. Güberçekli – nokat şekilli umumy belgiler we düzgünler

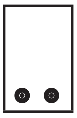
1.	№	 1345	belgi
2.	§	 346	paragraf
3.		 5	matematikada setirden-setire geçmek- 1 (eger boş öýjük goýberilmese)
4.		 6	matematikada setirden-setire geçmek - 2 (boş öýjük goýberilse)

5.  matematikada dyngy belgileri anyklaýjy

6

6. ...  matematikada köp nokat

6 3

7. -  kese çyzyk

36

1-nji düzgün. Paragraf we tertip belgisini ýazmazdan öň, 1 öýjük goýberilýär.

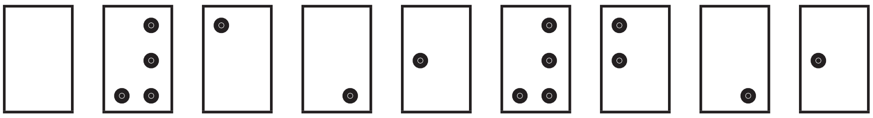
2-nji düzgün. Tekstiň içinde matematiki ýazgysy bolanda, öňünde we yzynda boş öýjük goýberilýär.

3-nji düzgün. Matematikada sanyň yzyndan dyngy belgi gelse, dyngy belgi droba öwrülmez ýaly, onuň öňünden 6-njy nokat goýulýar.

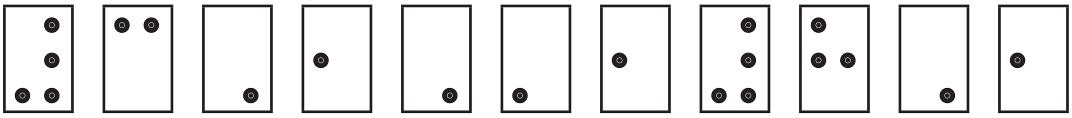
4-nji düzgün. Matematikada uzyn kese çyzygyň yzyndan öýjük goýberilýär, şeýle hem kiçi kese çyzygyň öňünden we yzyndan öýjük goýberilmeýär.

1-nji mysal

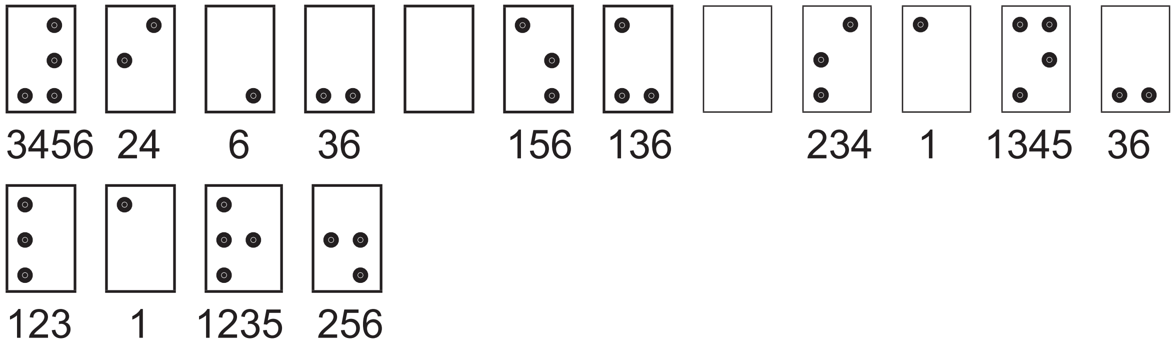
1, 2, 3, ..., 8, 9 – şu sanlar



3456 1 6 2 3456 12 6 2

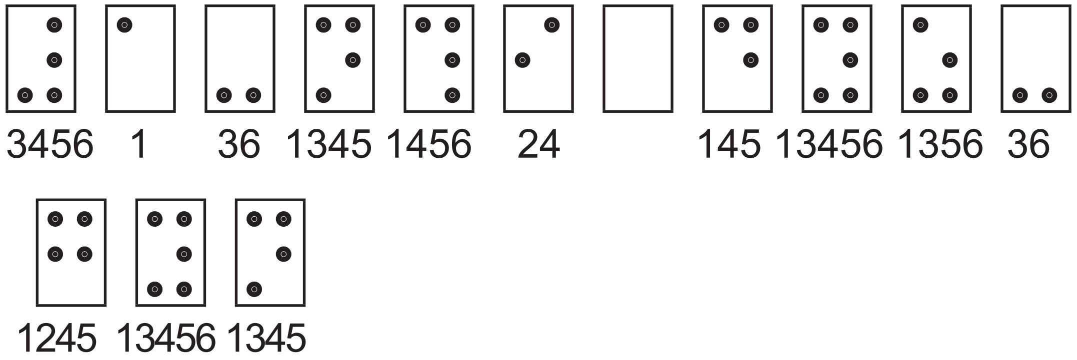


3456 14 6 2 6 3 2 3456 125 6 2

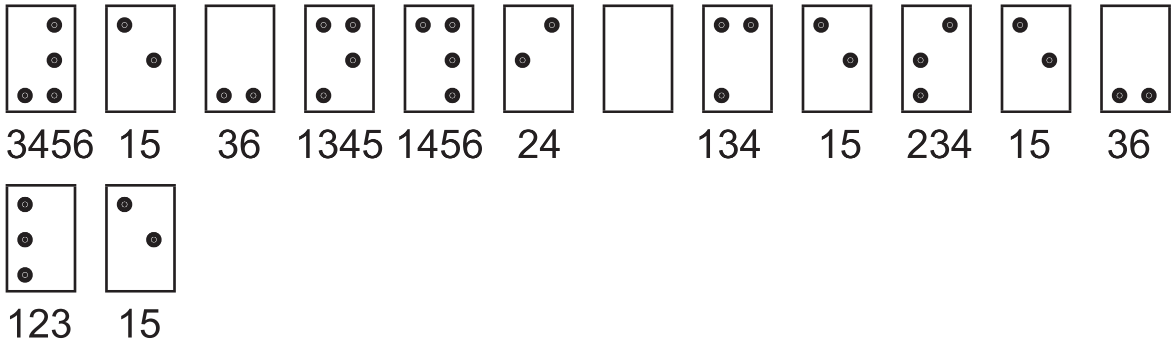


2-nji mysal

1-nji düzgün



5-nji mesele



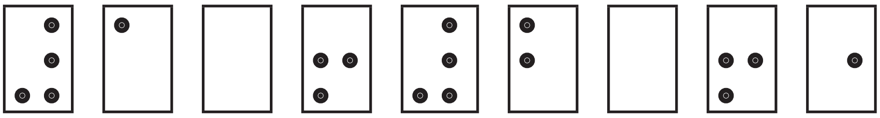
3-nji mysal

Bellik. Setirden setire geçilende, goýulýan belgiler barada ýokarda agzalyp geçilýär.

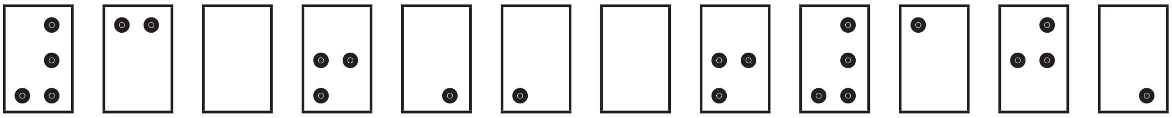
1+2+

3+... +10

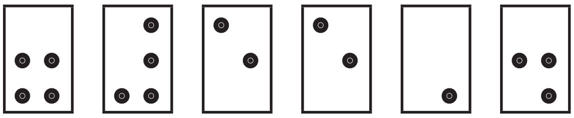
= 55.



3456 1 235 3456 12 235 5



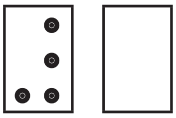
3456 14 235 6 3 235 3456 1 245 6



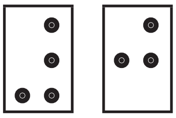
2356 3456 15 15 6 256

2.2. Güberçekli - nokat şekilli arap sifrleriniň ýazylyşy

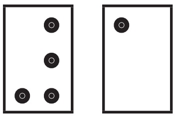
Arap sifrleriniň braýl ulgamynda güberçekli – nokat şekilli ýazylyşy

1.  san belgisi

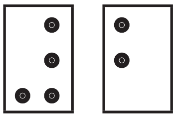
3456

2. 0  nol

3456 245

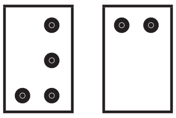
3. 1  bir

3456 1

4. 2  iki

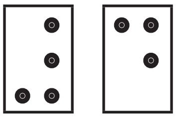
3456 12

5. 3 üç



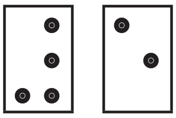
3456 14

6. 4 dört



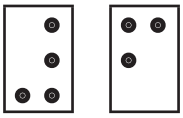
3456 145

7. 5 bäş



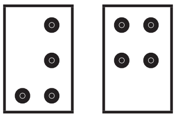
3456 15

8. 6 alty



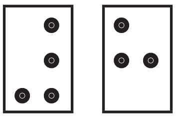
3456 124

9. 7 ýedi



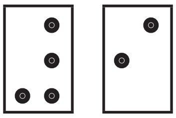
3456 1245

10. 8 sekiz



3456 125

11. 9 dokuz



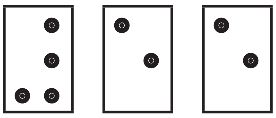
3456 24

Düzgün

Braýl ulgamynda arap sifrleri ýazylanda, san belgi sanlaryň diňe birinjisiniň öňünde ýazylýar.

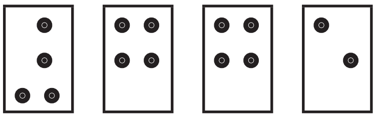
Mysal üçin:

55



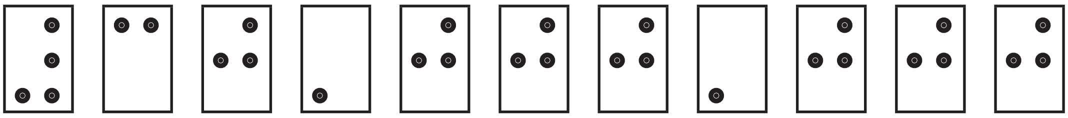
3456 15 15

775



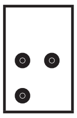
3456 1245 1245 15

30.000.000

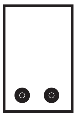


3456 14 245 3 245 245 245 3 245 245 245

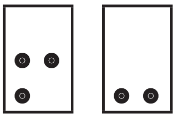
2.3. Güberçekli - nokat şekilli arifmetik alamatlaryň ýazylyş düzgünleri

1. **+**  goşmak

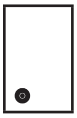
235

2. **–**  aýyrmak

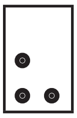
36

3. **±**  goşmak ýa-da aýyrmak

235 36

4. **•**  köpeltmek

3

5. **x**  sütünleýin köpeltmek

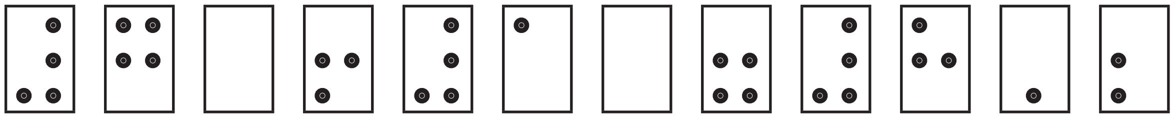
236

6.	**:**	256	bölmek
7.	⊦	356	sütünleýin bölmek
8.	**=**	2356	deňlik
9.	**≈**	26 26	takmynan deň
10.	**≠**	23456	deň däl
11.	**<**	246	kiçi
12.	**>**	135	uly
13.	**≤**	246 2356	kiçi ýa-da deň
14.	**≥**	135 2356	uly ýa-da deň

Düzgün. Arifmetika alamaty ýazylanda, diňe köpeltmek belgisiniň öňünde boş öýjük goýberilmeýär.

1-nji mysal

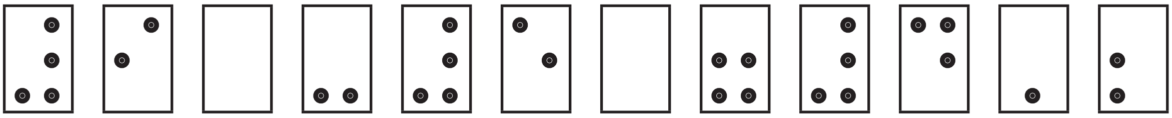
7 + 1 =8;



3456 1245 235 3456 1 2356 3456 125 6 23

2-nji mysal

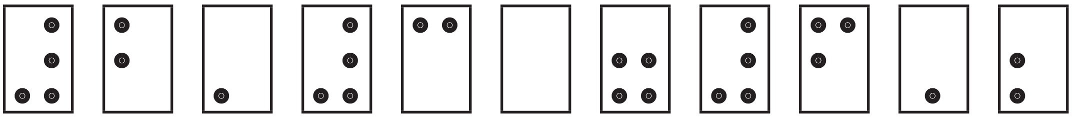
9 – 5 = 4;



3456 24 36 3456 15 2356 3456 145 6 23

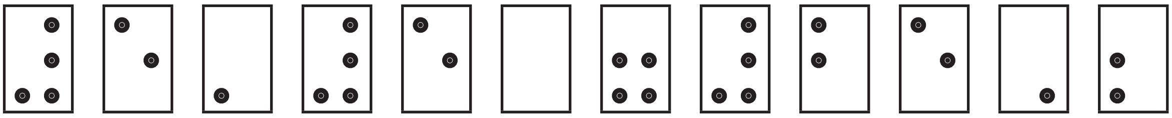
3-nji mysal

2 • 3 = 6;



3456 12 3 3456 14 2356 3456 124 6 23

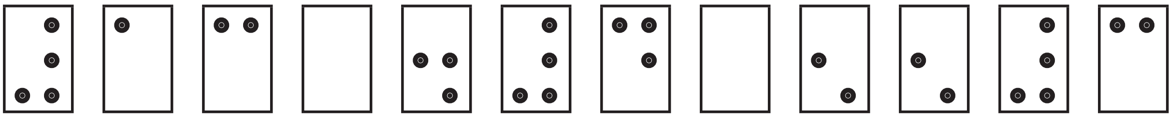
5 · 5 = 25;



3456 15 3 3456 15 2356 3456 12 15 6 23

4-nji mysal

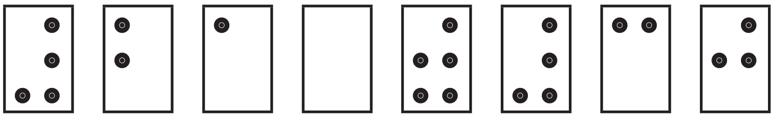
13 : 4 ≈ 3



3456 1 14 256 3456 145 26 26 3456 14

5-nji mysal

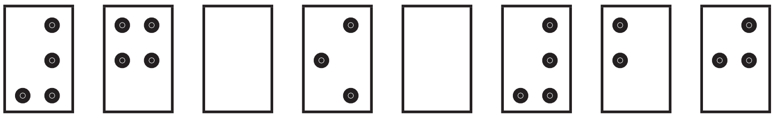
21 ≠ 30



3456 12 1 23456 3456 14 245

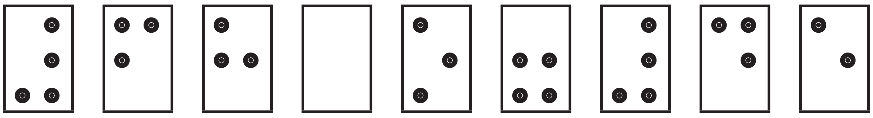
6-njy mysal

7 < 20



3456 1245 246 3456 12 245

68 ≥ 45



3456 124 125 135 2356 3456 145 15

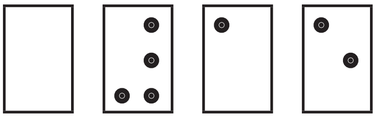
SÜTÜNLEÝIN IŞLEMEK

Düzgün. Matematikada sanlar sütünleýin görnüşinde işlenende, san belgi diňe birinji setiriň öňündäki sanda ýazylýar.

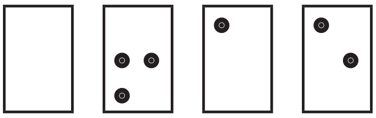
Bellik. Sütünleýin sanlar köpeldilende, köpeldiljek sanlara (näçe belgili bolsa) görä öýjük goýbermeli (mysal üçin, 2,3...)

1-nji mysal

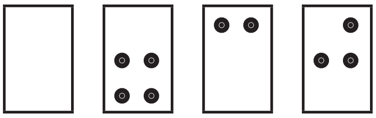
$$
\begin{array}{r} 15 \\ +\ \underline{15} \\ 30 \end{array}
$$



3456 1 15



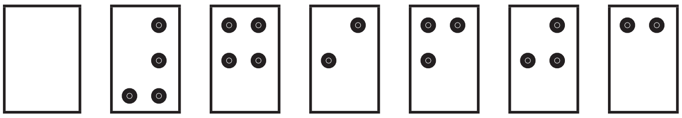
235 1 15



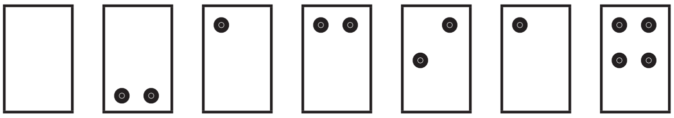
2356 14 245

2-nji mysal

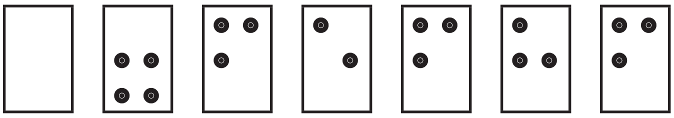
$$
\begin{array}{r} 79603 \\ -\ \underline{13917} \\ 65686 \end{array}
$$



3456 1245 24 124 245 14



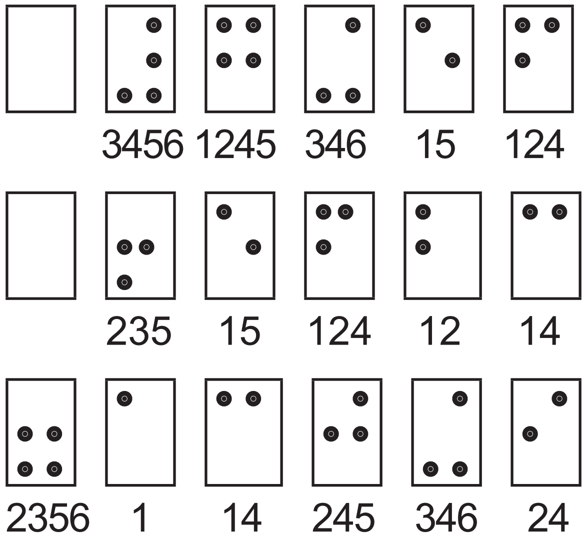
36 1 14 24 1 1245



2356 124 15 124 125 124

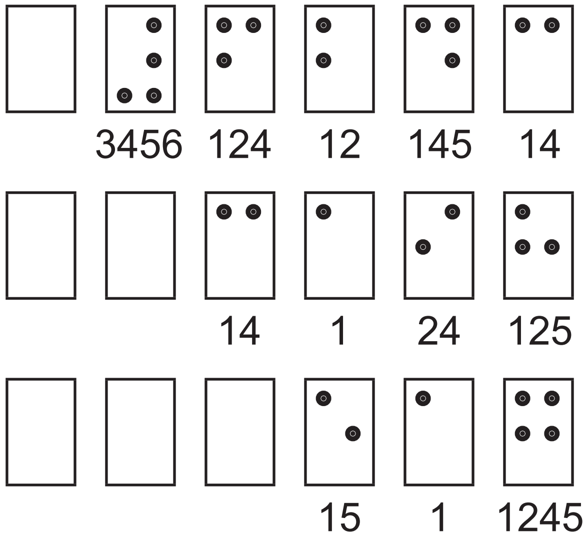
3-nji mysal

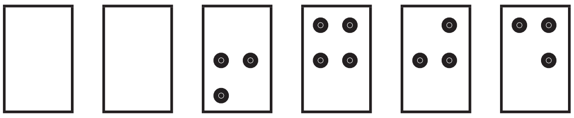
```
   7*56
+  5623
  130*9
```



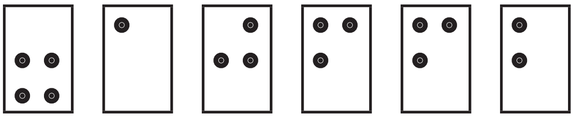
4-nji mysal

```
   6243
   3198
    517
+   704
  10662
```





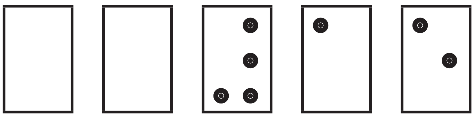
235 1245 245 145



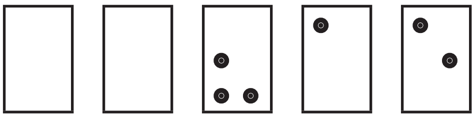
2356 1 245 124 124 12

5-nji mysal

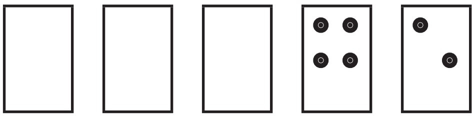
$$
\begin{array}{r}
15 \\
\times \quad \underline{15} \\
75 \\
+ \quad \underline{15} \\
225
\end{array}
$$



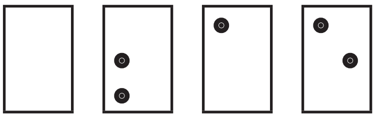
3456 1 15



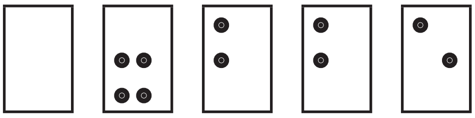
236 1 15



1245 15



235 1 15

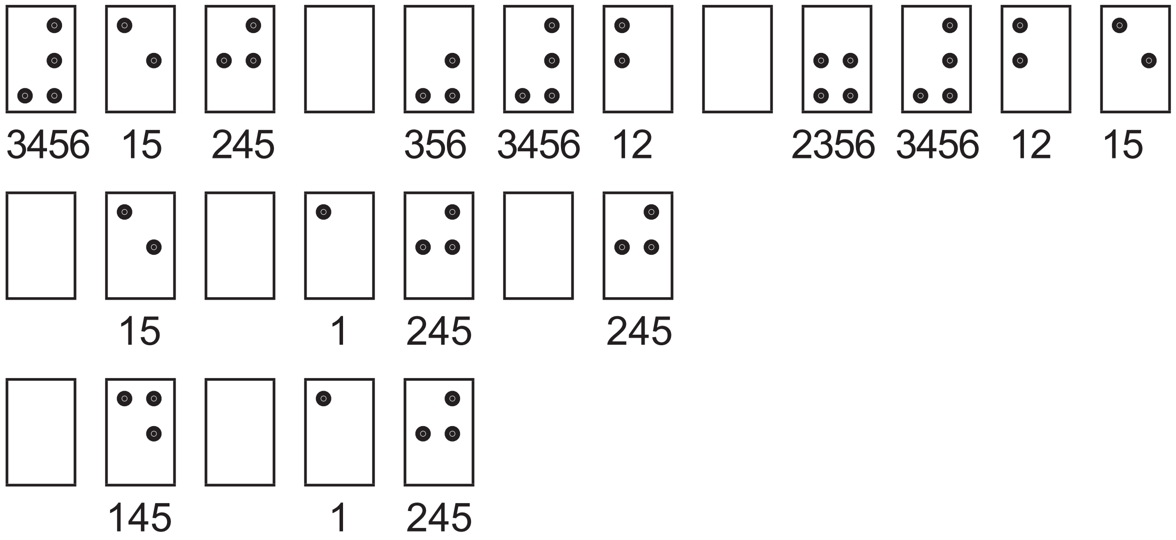


2356 12 12 15

6-njy mysal

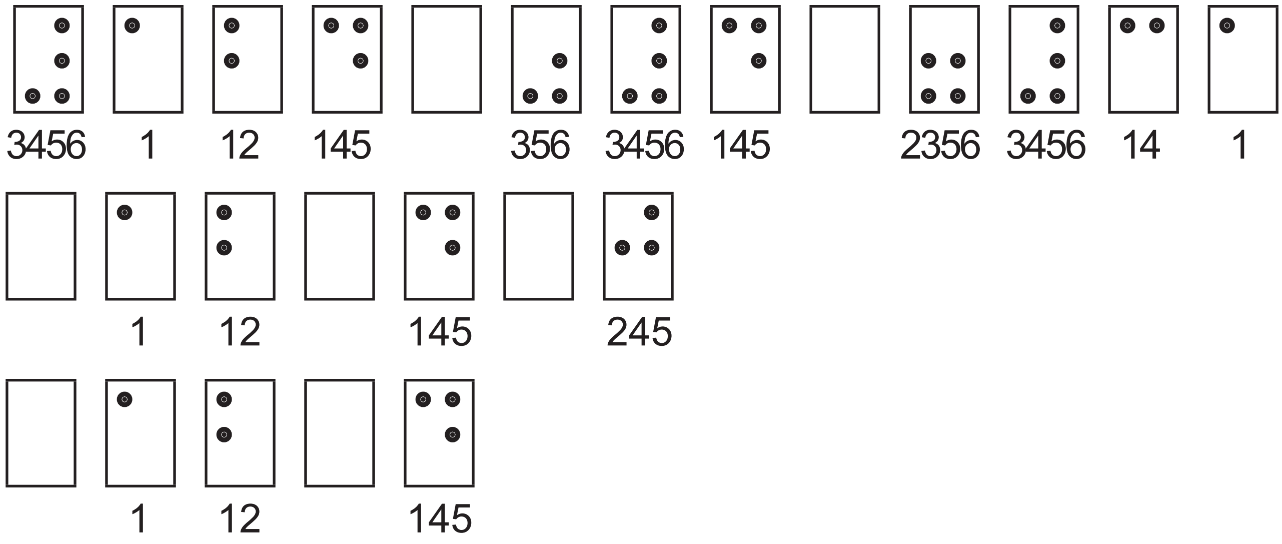
```
_ 50 | 2
  4  | 25
_ 10
  10
   0
```

50 :2 = 25
5 10 0
4 10

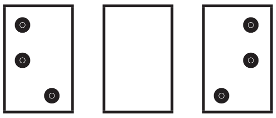


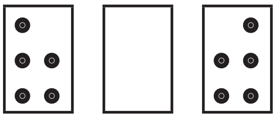

```
_ 124 | 4
  12  | 31
_   4
    4
    0
```

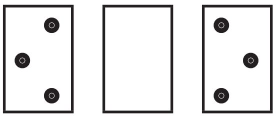
124 : 4 = 31
12 4 0
12 4

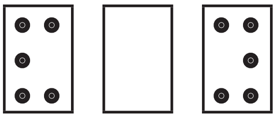


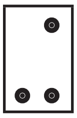
2.4. Güberçekli – nokat şekilli arifmetik ýaýlaryň ýazylyşy

1. ( )  126 345 — tegelek ýaýlar

2. [ ]  12356 23456 — kwadrat ýaýlar

3. { }  246 135 — figuraly ýaýlar

4.  12346 13456 — birleşdirilen ýaýlaryň açylyşy we ýapylyşy

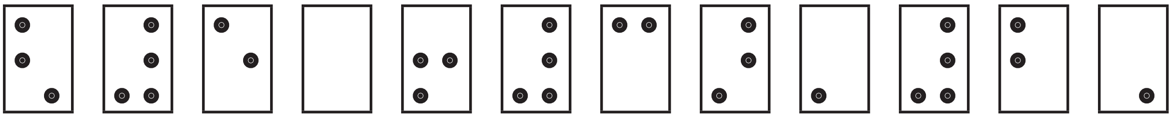
5. *  346 — näbelli sifriň ýerinde ýazylýan belgi

1-nji düzgün. Ýaýlar açylanda, ýapylanda, boş öýjük goýberilmeýär.

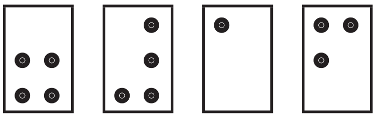
Bellik. Diňe birleşdirilen ýaýyň öňünden we soňundan öýjük goýberilýär.

1-nji mysal

(5+3) · 2 = 16



126 3456 15 235 3456 14 345 3 3456 12 6

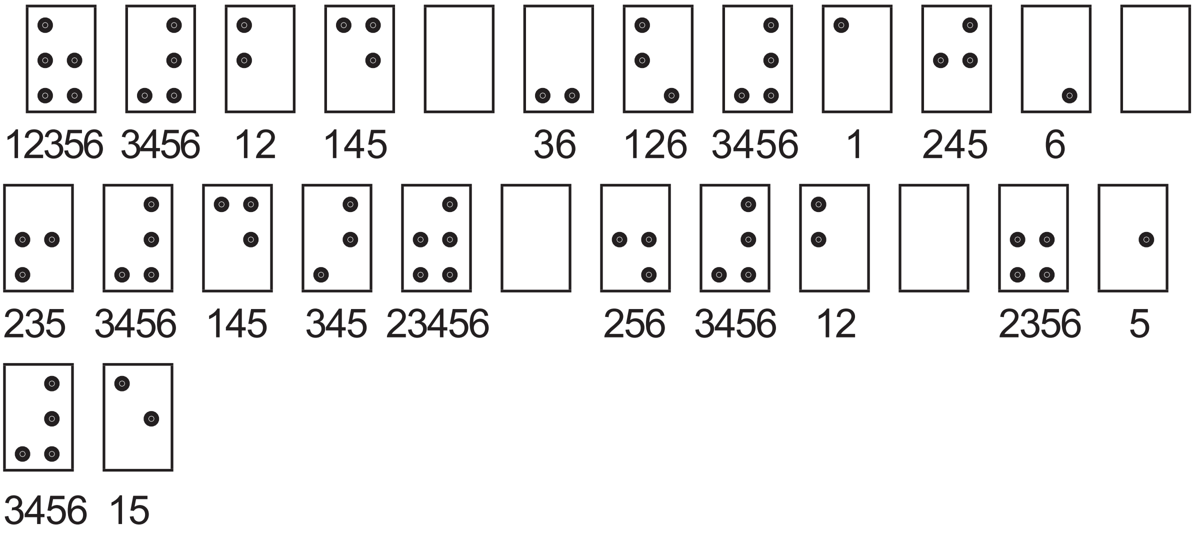


2356 3456 1 124

5. Sargyt № 285

2-nji mysal

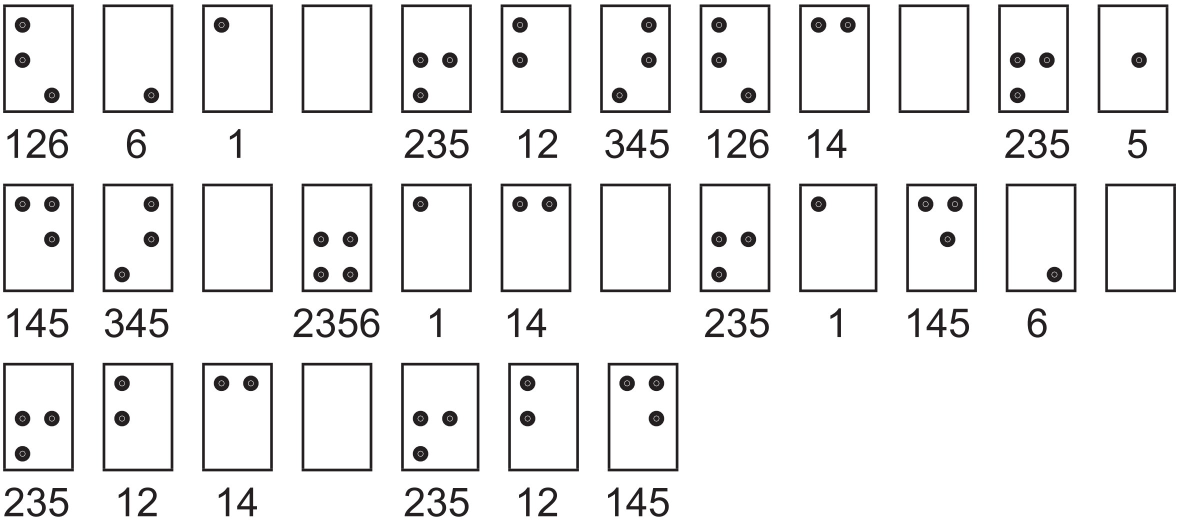
[24-(10+4)]:2=5



2-nji düzgün. Ýaýlaryň içinde diňe harp ýazylanda, birinji harpyň öňünde elipbiýiň baş alamaty ýazylýar.

3-nji mysal

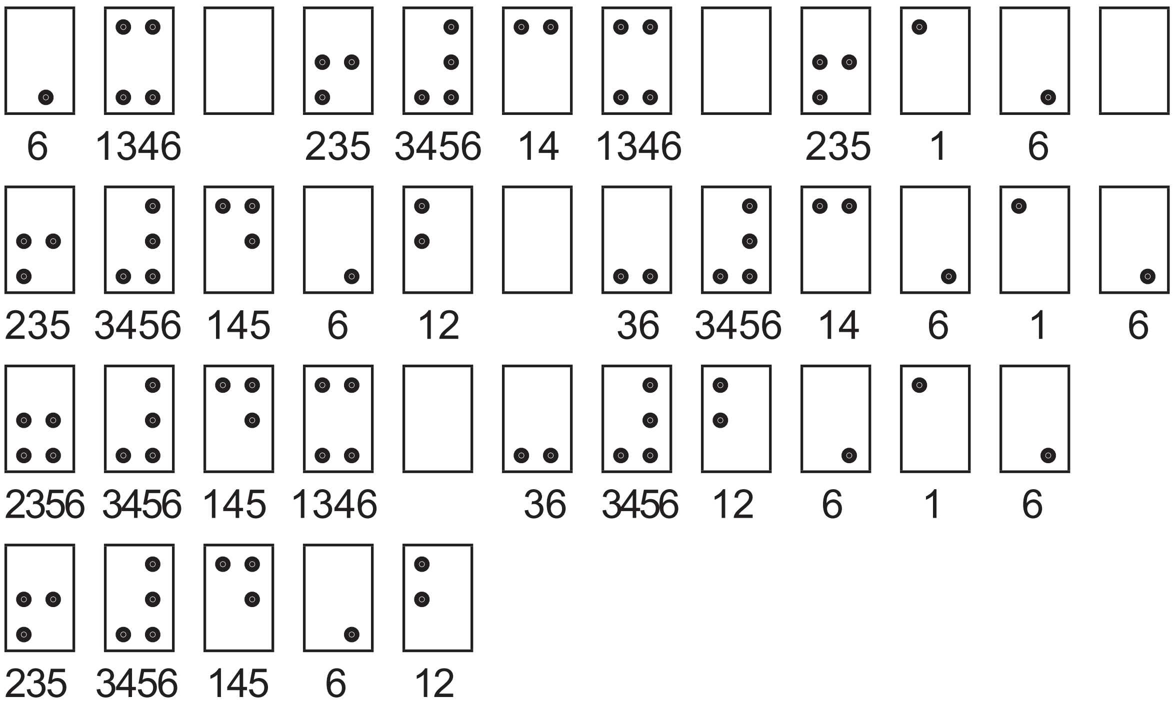
(a+b) (c+d) = ac + ad + bc + bd



3-nji düzgün. Eger alamatlaryň yzyndan san bilen harp gelende, harpyň öňünde 6-njy nokat goýulýar.

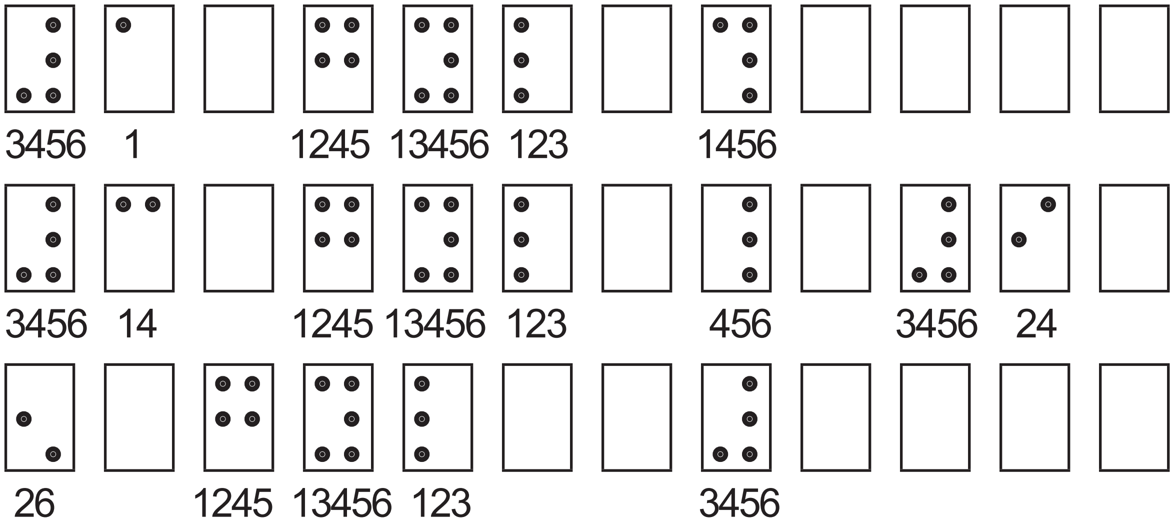
4-nji mysal

$x + 3x + a + 4b - 3a = 4x - 2a + 4b$

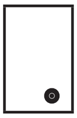


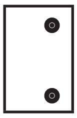
5-nji mysal

$$\left.\begin{array}{l}1 \text{ gül}\\ 3 \text{ gül}\\ ? \text{ gül}\end{array}\right\} 9 \text{ gül}$$



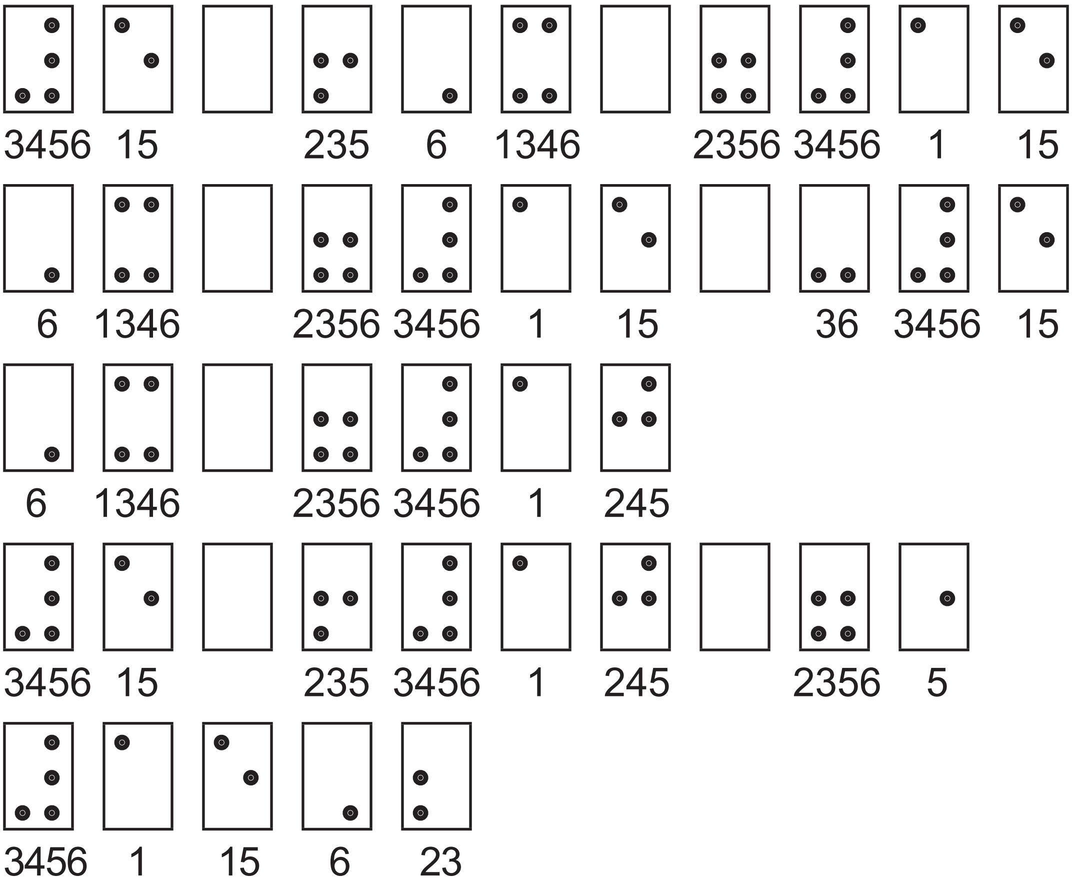
2.5. Güberçekli - nokat şekilli deňleme mysallarynyň ýazylyşy

Setir latyn harplaryň öňünde  6-njy nokat goýulýar.

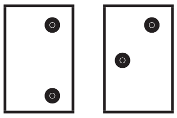
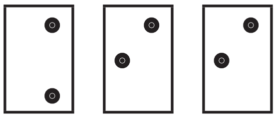
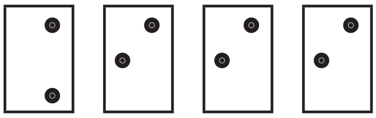
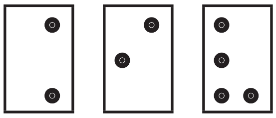
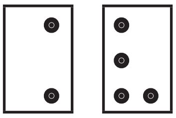
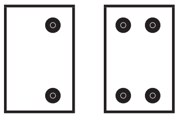
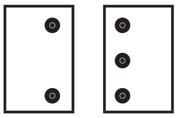
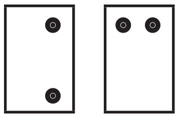
Baş latyn harplaryň öňünde  4–6-njy nokatlar goýulýar.

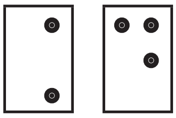
1-nji mysal

$5 + x = 15$
$x = 15–5$
$x = 10$
$5 + 10 = 15$

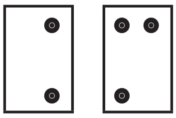


2.6. Güberçekli - nokat şekilli rim sifrleriniň ýazylyşy

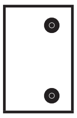
1.	I		46 24	**bir**
2.	II		46 24 24	**iki**
3.	III		46 24 24 24	**üç**
4.	IV		46 24 1236	**dört**
5.	V		46 1236	**bäş**
6.	X		46 1346	**on**
7.	L		46 123	**elli**
8.	C		46 14	**ýüz**

9. D  bäş ýüz

46 145

10. M  müň

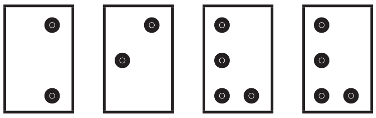
46 134

Rim sifrleriniň belgisi  4–6 nokatlar

1-nji düzgün. 4–6-njy nokatlar diňe sanlaryň birinjisiniň öňünde ýazylýar.

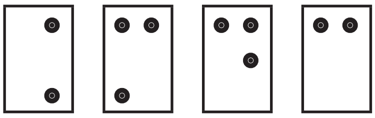
1-nji mysal

IVV



46 24 1236 1236

MDC

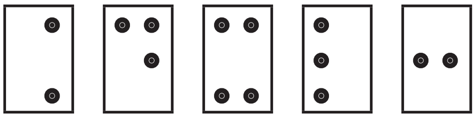


46 134 145 14

2-nji düzgün. Sanlary müň gezek köpeltmek üçin, sanlaryň yzyndan 2–5-nji nokatlar ýazylýar.

2-nji mysal

DXL

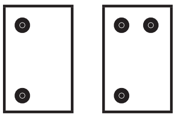


46 145 1346 123 25

2.7. Güberçekli – nokat şekilli atlandyrylan sanlaryň ýazylyşy

Braýl ulgamynda güberçekli-nokat şekilli ölçegleriň metriki ulgamlarynyň ýazylyşy:

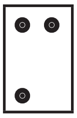
1. *km*



13 134

kilometr

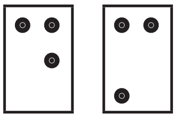
2. *m*



134

metr

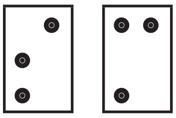
3. *dm*



145 134

desimetr

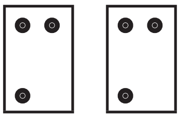
4. *sm*



234 134

santimetr

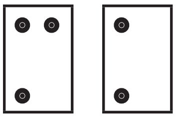
5. *mm*



134 134

millimetr

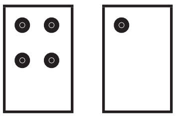
6. *mk*



134 13

mikron

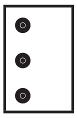
7. *ga*



1245 1

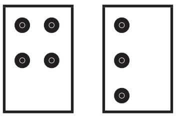
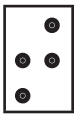
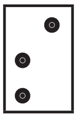
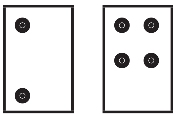
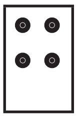
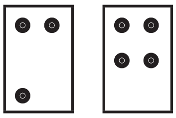
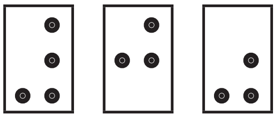
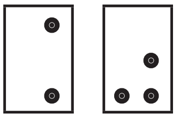
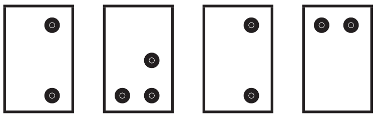
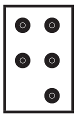
gektar

8. *l*

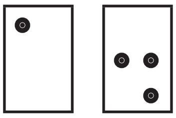


123

litr

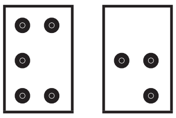
9.	*gl*	 1245 123	gektolitr
10.	*t*	 2345	tonna
11.	*sent.*	 234	sentner
12.	*kg*	 13 1245	kilogram
13.	*g*	 1245	gram
14.	*mg*	 134 1245	milligram
15.	%	 3456 245 356	göterim
16.	º	 46 356	gradus
17.	ºC	 46 356 46 14	gradus selsiýa
18.	∞	 12456	tükeniksizlik

19. a. — asyr



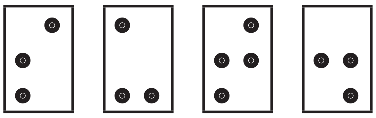
256

20. ý. — ýyl



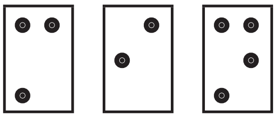
12346 256

21. sut. — gije-gündiz (sutka)



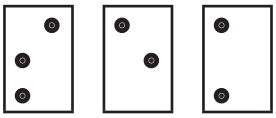
234 36 2345 256

22. *min*. — minut



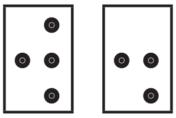
134 24 1345

23. *sek*. — sekunt



234 15 13

24. w. — wagt

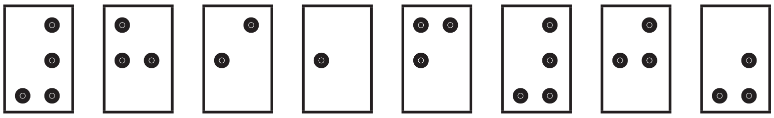


2456 256

Düzgün. Göterim belgisi sandan soň ýazylyp, öýjük goýberilmeýär. Şeýle hem onluk drob ýazylanda, bitin sanyň yzyndan otur belgisi goýulýar. Onluk drob belgisi ýazylanda, belginiň öňünden we yzyndan öýjük goýberilýär.

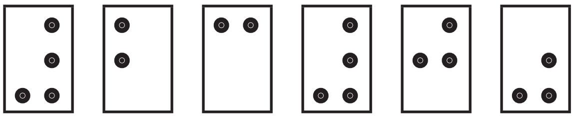
1-nji mysal

89,6 %



3456 125 24 2 124 3456 245 356

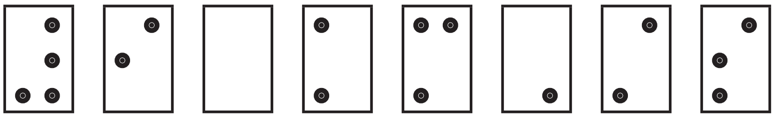
23%



3456 12 14 3456 245 356

2-nji mysal

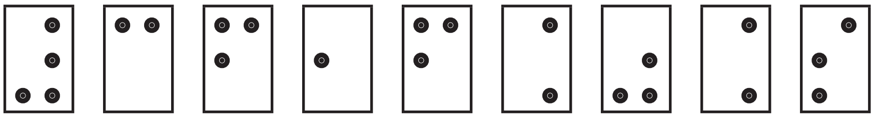
9 *км/s*



3456 24 13 134 6 34 234

3-nji mysal

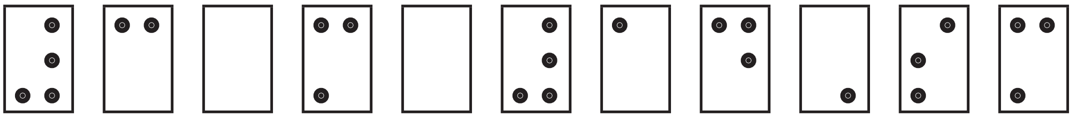
36,6°C



3456 14 124 2 124 46 356 46 234

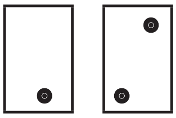
4-nji mysal

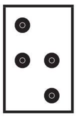
3 *m* 14 *sm*



3456 14 134 3456 1 145 6 234 134

2.8. Güberçekli – nokat şekilli ady droblaryň ýazylyşy

1. /  6, 34 kese drobuň ýazylyşy

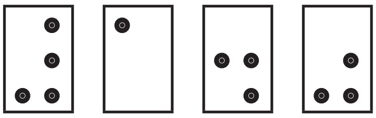
2. ___  1256 drob çyzygy

1-nji düzgün. Ady droblar ýazylanda, san belginiň yzyndaky öýjükden sanawjy ýazylýar, onuň yzyndaky öýjügiň aşagynda maýdalawjy ýazylýar .

Bellik. Maýdalawjy ýazylanda, 1-4-nji nokatlar ýazylmaýar.

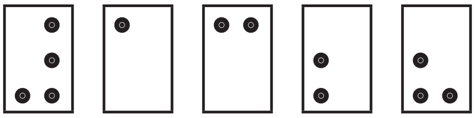
1-nji mysal

$\frac{1}{40}$



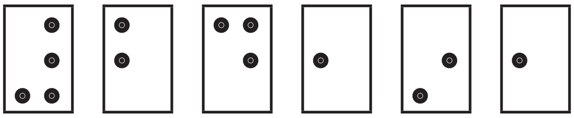
3456 1 256 356

$\frac{13}{28}$



3456 1 14 23 236

$\frac{24}{191}$

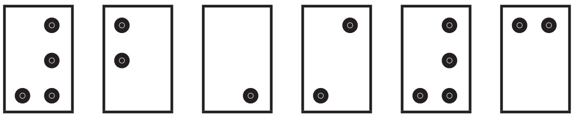


3456 12 145 2 35 2

2-nji düzgün. Gytak drob ýazylanda, öňünde we soňunda öýjük goýberilmeýär.

2-nji mysal

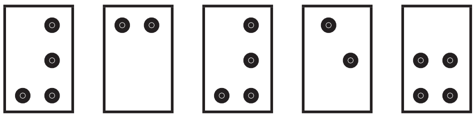
2/3



3456 12 6 34 3456 14

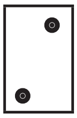
3-nji düzgün. Garyşyk ady droblar ýazylanda, bitin sanyň hem-de drob böleginiň öňünde san belgi goýulýar.

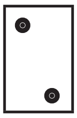
3-nji mysal

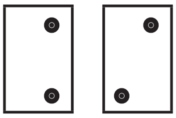
$3\frac{5}{7}$ 

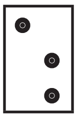
3456 14 3456 15 2356

<u>2.9.</u> Güberçekli – nokat şekilli dereje indeksiniň ýazylyş düzgünleri

1.  34 — berlen sanyň dereje belgisi (ýokarsyndaky bellenen)

2.  16 — berlen sanyň aşagyndaky bellenen indeksi

3.  46 34 — anyk ýokarsyndaky bellenen dereje belgisi

4.  156 — jemleýji (dereje we indeks)

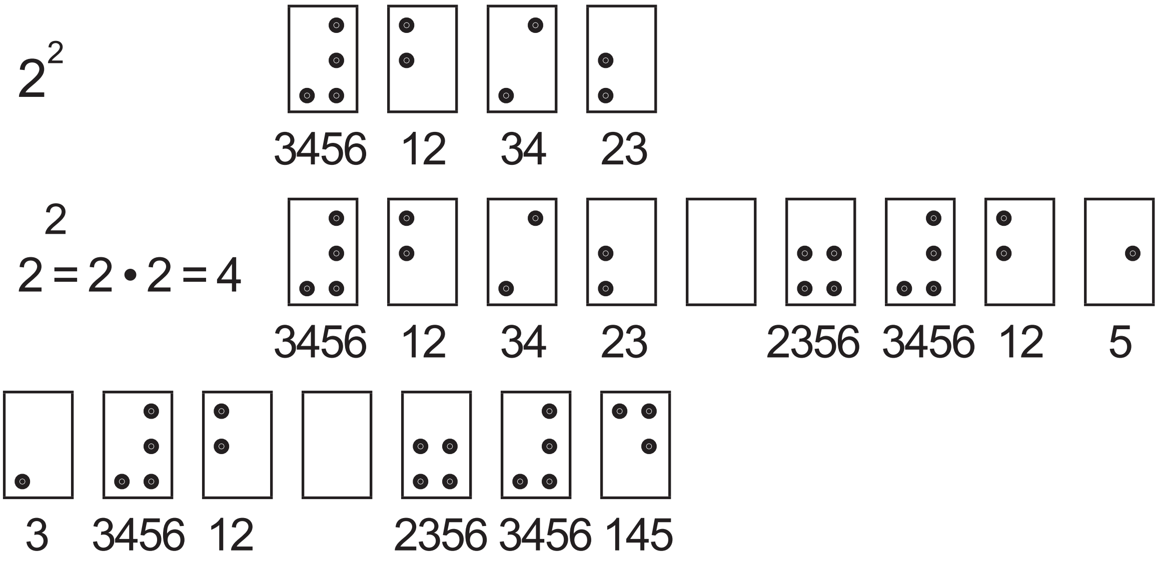
1-nji düzgün. Dereje we indeks belgisi ýazylanda, öňünden we soňundan öýjük goýberilmeýär. Şeýle hem dereje we indeksi jemleýän belginiň yzyndan öýjük goýberilýär.

2-nji düzgün. Eger dereje bitin sanlar položitel, otrisatel ýa-da nol bolanda, ol san belgisiz we aşakdaky nokatlarda ýazylýar hem-de dereje ýapyşlygy goýulmaýar.

1-nji mysal

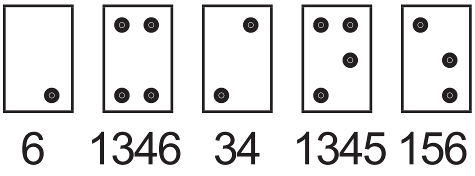
2^2

$2^2 = 2 \cdot 2 = 4$



2-nji mysal

x^n



2.10. Informatika

Ýöriteleşdirilen mekdepleriň başlangyç synplarynda gözi görmeýän we çala görýän okuwçylaryň kompýuterde işlemegi üçin ýörite gürleýän JAWS for Windows programmasy peýdalanylýar. Şol pgorammanyň üsti bilen okuwçylara informatika sapaklarynda kompýuterde işle-

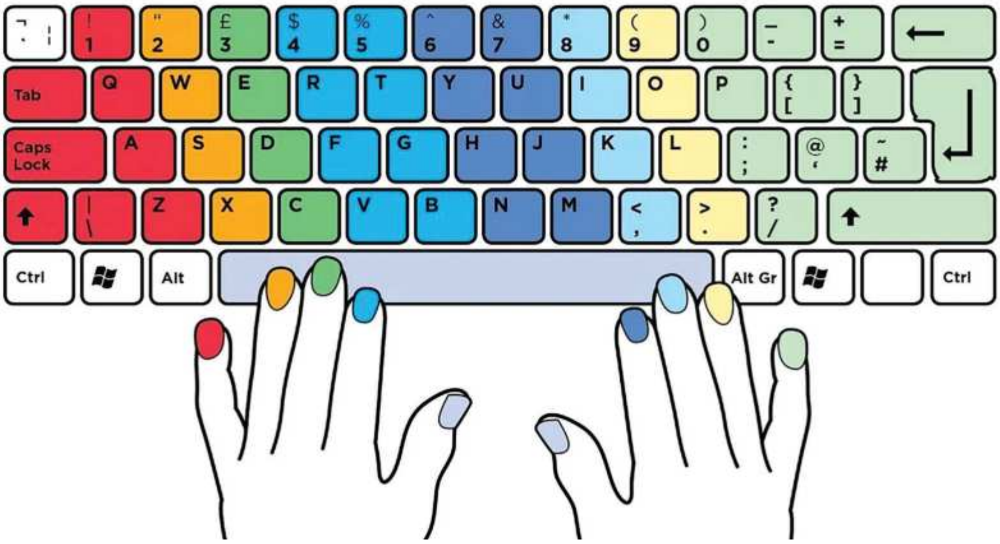
megi öwretmek mümkin. Häzirki döwürde JAWS for Windows gürleýän programmasy gözi görmeýän adamlar üçin iň meşhur programmalaryň biri bolup durýar. Ol programma PC Windows hatarynda işleýär.

JAWS for Windows programmasy gözi görmeýän we çala görýän okuwçylara informatika sapaklarynda işlemäge hem-de Internete çykyp maglumatlary almaga uly kömek edýär. Gürleýän sintezatorlaryň hem-de kompýuteriň audio-kartasynyň üsti bilen monitorda görkezilýän zatlar, maglumatlar söz bilen okuwça ýetirilýär. JAWS for Windows programmasynyň ýene bir gowy tarapy ol maglumatlary täze gelýän Braýlyň displeýine çykmaga mümkinçilik berýär. Gözi görmeýän adamlar displeýde ýazylan nokat şekilli harplary barmaklary bilen okap bilýär. JAWS for Windows programmasy klawiatura buýruk berip bilýär hem-de hereket etmäge ýagdaý döredýär.

8-nji surat. Braýl displeýli klawiatura

9-njy surat. Braýl displeýleri

Gözi görmeýän we çala görýän okuwçylar kompýuterde işlände syçan bilen işlemek mümkinçiligi çäkli bolýar. Şonuň üçin okuwçylara klawiaturada işlemek zerurdyr.



10-njy surat. Klawiaturada barmaklar bilen işlenilişi

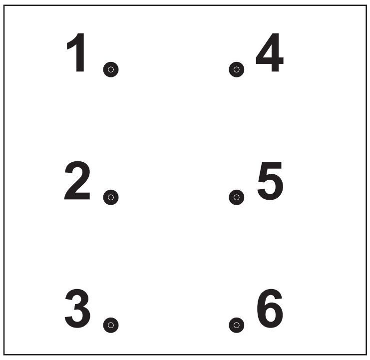
III BÖLÜM

Aýdym-saz

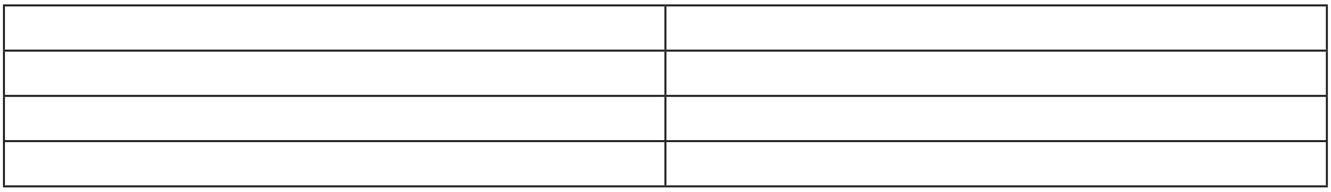
Ýaş nesilleriň hemmetaraplaýyn, sazlaşykly ösmeginde, olaryň pikirlenişiniň, dünýägaraýşynyň giňelmeginde, ynsanperwerlik duýgularynyň kämilleşmeginde ýörite çagalar üçin mekdeplerde aýdym-sazyň tutýan orny örän uludyr. Türkmen kompozitorlarynyň döreden eserlerini, türkmen halk aýdym-sazlaryny güberçekli – nokat şekilli alty nokatly nota geçirip, saglyk ýagdaýy çäkli çagalara öwredip bolýar. Aýdym-sazyň kömegi bilen okuwçylar töweregimizi gurşap alan dünýäni has çuňňur kabul edýär we duýýar. Bu wezipeleri aýdym-saz sapaklarynda amala aşyrmak bilen mugallym birinji nobatda okuwçylarda sungata bolan söýgini döretmeli hem-de aýdym-saz bilen meşgullanmaga gyzyklandyrmaly. Şu meseleleri ýerine ýetirmek üçin saglyk ýagdaýy çäkli çagalar üçin güberçekli – nokat şekilli braýl ulgamynda notada ýazylan gollanmalar çap edilýär. Braýl ulgamynda 1-nji synp üçin çap edilen okuw kitabynyň awtory F. Abtdyr. Ol Sankt-Peterburgyň batyl adamlary üçin sazçylyk liseýiniň mugallymy bolup işläpdir. Soňra nota ulgamyna birnäçe üýtgeşiklikler girizilýär. Iň soňky sapar batyl sazandalaryň Parižde bolan halkara maslahatynda girizilen üýtgeşmeleri öwrenip, Z.I.Şamina 1939-njy ýylda bu kitaba köp üýtgeşiklikleri girizýär. Häzirki döwürde Z.I.Şaminanyň ýazan nota ulgamy boýunça kitaplar sazandalar üçin çap edilýär.

3.1. Güberçekli – nokat şekilli nota alamatlarynyň ýazylyşy

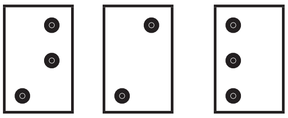
Braýl ulgamynda notalaryň ýazgylary güberçekli – nokat şekilli harplaryň matematika, fizika alamatlarynyň ýazylyşy ýaly, her nota belgileri alty nokadyň belgileri bilen alty nokadyň içinde utgaşdyrylýar. Nokatlar iki hatarda ýerleşdirilip, ýokardan aşaklygyna sanalýar.



3.2. Güberçekli – nokat şekilli nota ýazgylarynyň umumy aňlatmalary, saz açarlary

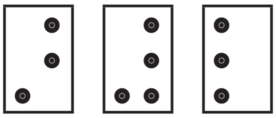


Skripka açary



345 34 123

Bas açary



345 3456 123

Saz açar belgileri diňe gitara (skripka we başgalar) ýazgylarynda we nazaryýet işlerinde peýdalanylýar.

6. Sargyt № 285

3.3. Güberçekli – nokat şekilli notalaryň ýazylyşy

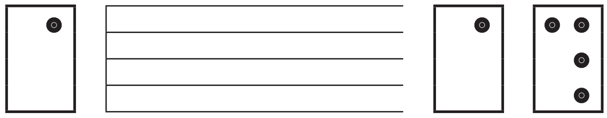
Notalar								Dyngy	
Dowamly	Do	Re	Mi	Fa	Sol	Lýa	Si	dowamly	
ýa-da								ýa-da	
	13456	1356	12346	123456	12356	2346	23456		134
ýa-da								ýa-da	
	1345	135	1234	12345	1235	234	2345		136
ýa-da								ýa-da	
	1456	156	1246	12456	1256	246	2456		1236
ýa-da								ýa-da	
	145	15	124	1245	125	24	245		1346
			u	m	n				
	13456 45 14 13456	1356 45 14 1356							134

3.4. Güberçekli –nokat şekilli oktawa belgileriniň ýazylyşy

Subkontr-pes bas

4 4 4 4 246

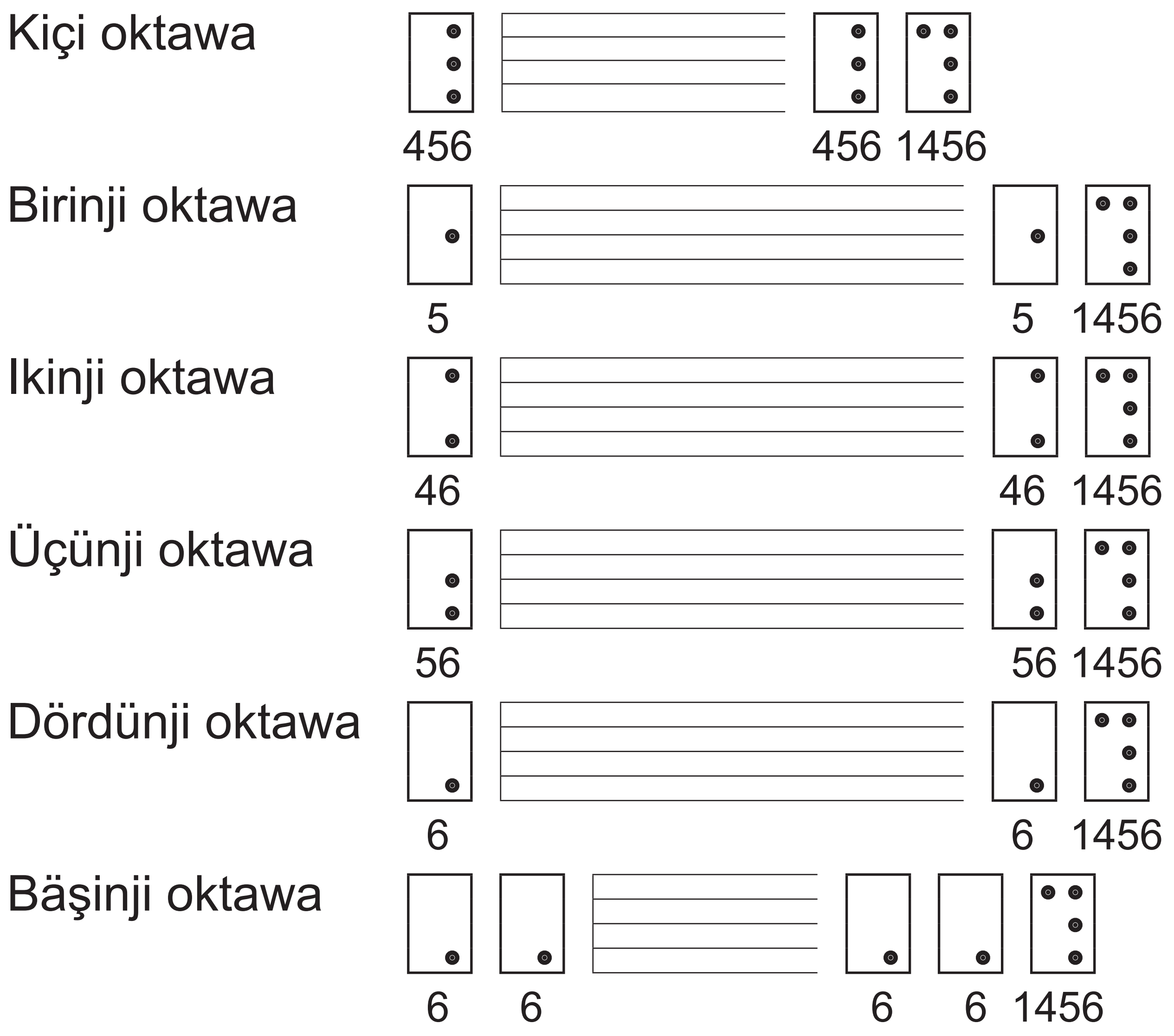
Kontr-oktawa



4 4 1456

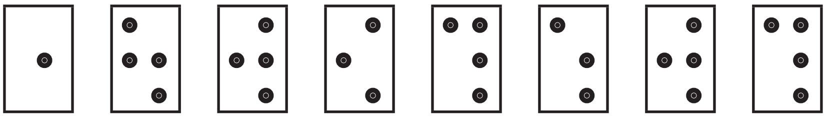
Uly oktawa

45 45 1456



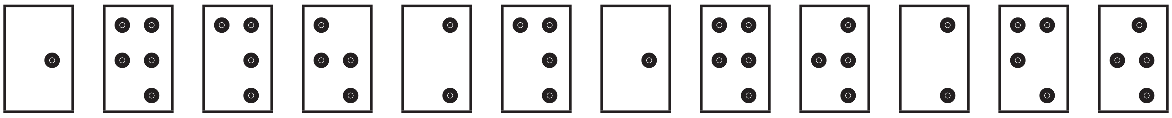
Oktawa belgisi gönüden-göni notanyň öňünde ýazylýar. Sazy ýa-da onuň çalynmagyny geçirmezden ozal, ilkinji notany oktawa belgisini goýmak hökmandyr. Sekunda ýa-da tersiýa sesleriniň hereketinde ýokary ýa-da aşak oktawa belgisi goýulmaýar. Kwartada ýa-da kwintada (bu:1) diatonik gammada bäşinji basgançak; 2) skripka we başga birnäçe saz gurallarynyň iň ýokary tonly kirşi) sesler aşaklamasynda içki bir oktawa, oktawa belgisi goýulmaýar. Sekunda, septik geçişi oktawa belgileri bilen belgilenýär.

3.5. Güberçekli – nokat şekilli tersiýanyň sekunda hereketi



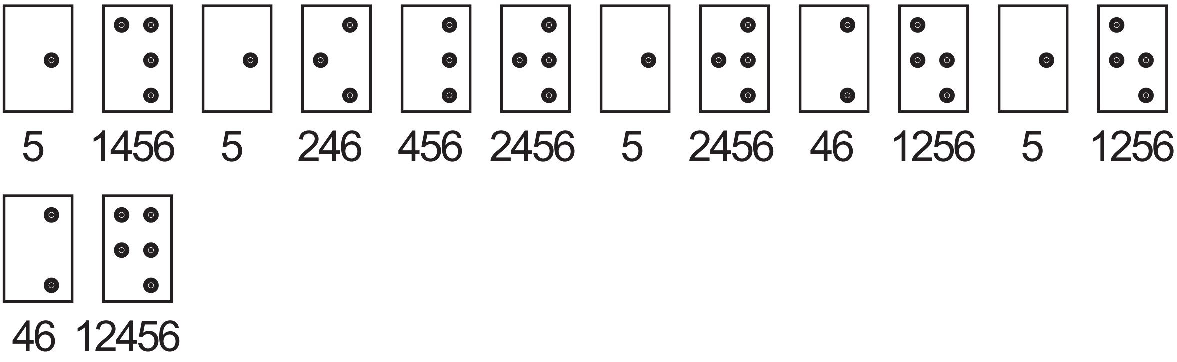
5 1256 2456 246 1456 156 2456 1456

3.6. Güberçekli – nokat şekilli kwartada we kwintada hereketiň ýazylyşy



5 12456 1456 1256 46 1456 5 12456 2456 46 1246 2456

3.7. Güberçekli – nokat şekilli sekunda, septik geçişiň oktawada hereketi



Oktawa belgisi notalaryň öňünde goýulýar:

1) açarly;

2) düwme gurallary üçin el belgileri;

3) aralyklar;

4) aňladan depgini, ýerine ýetiriliş görnüşi we hereketiň gidişi (dinamikasy);

5) Barre we ýagdaýynyň bellikleri;

6) sazlanyşygy paýlaýjylar we kiçi birleşdirijiler;

7) açylýan repriza (saz eseriniň gaýtalanýan bölegi we onuň notasy);

8) «Seni» we «dal seno»;

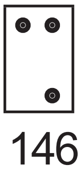
9) wolt bellikleri;

10) iki sanyň aňladýan, gysgaldylýan sanlary;

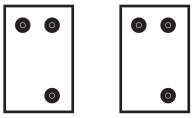
11) beýleki oktawada «smile» we 12 başlangyç we netijeli bellik görnüşi.

3.8. Güberçekli – nokat şekilli alterasi belgileriniň ýazylyşy

1. Diýez ♯

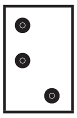


2. Dubl-diýez



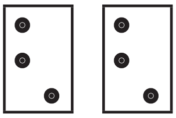
146 146

3. Bemol



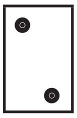
126

4. Dubl-bemol



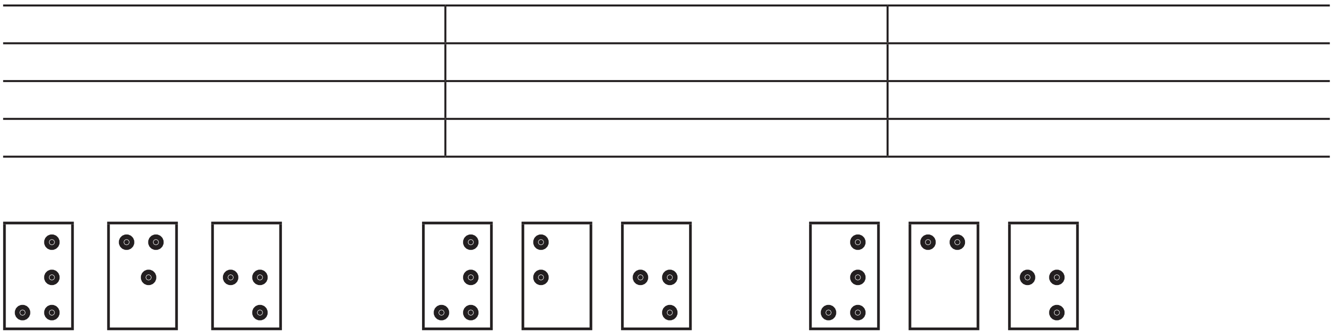
126 126

5. Bekar

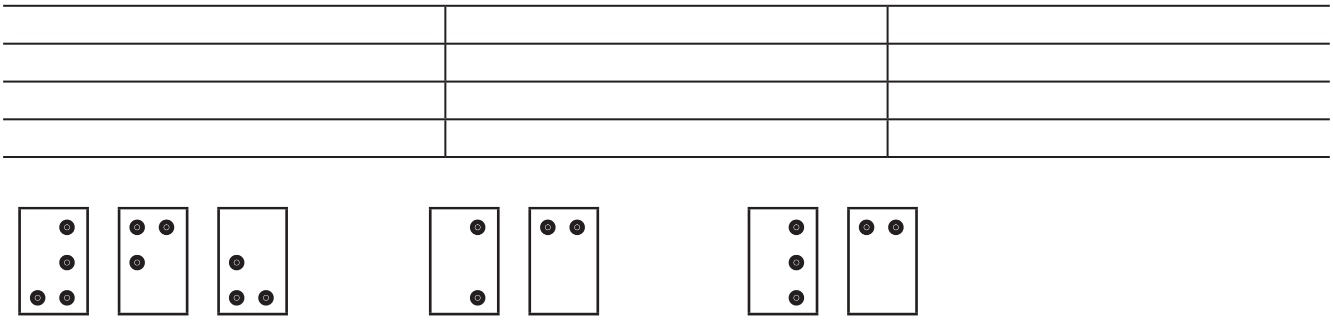


16

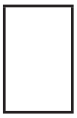
3.9. Güberçekli – nokat şekilli takt ölçeginiň (saz eserlerindäki ölçegi) ýazylyşy



3456 145 256 3456 12 256 3456 14 256



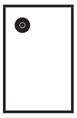
3456 124 236 46 14 456 14



Takt ölçeg belgisi drob ýazylyşy ýa-da latyn C harpy ýaly ýazylýar. Takt çyzygy boş öýjük bilen nokatsyz görkezilýär.

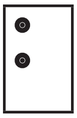
3.10. Güberçekli – nokat şekilli appliktura belgisiniň ýazylyşy

1. 1-nji barmak



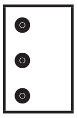
1

2. 2-nji barmak



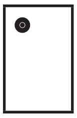
12

3. 3-nji barmak



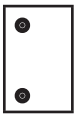
123

4. 4-nji barmak



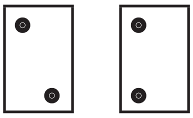
1

5. 5-nji barmak



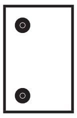
13

6. B.barmak wiolonçeli ýa-da gitara



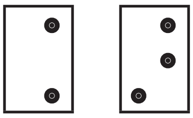
16 13

7. B.barmak sag eli baýan ýa-da akkordeon



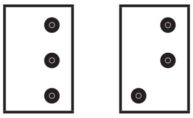
13

8. Sag eliň belgisi



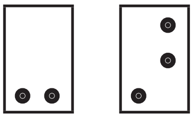
46 345

9. Çep eliň belgisi



456 345

10. Çep eliň belgisi baýan, akkordeon üçin

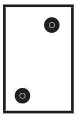


36 345

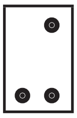
Applekatura belgisi notadan ýa-da nokatdan soň ýazylýar. Eger-de barmaklar bir notada çalşyrylanda, applekatura belgisi nokat belgisi bilen baglanyşykly bolýar. Applekatura wariantlarda görkezilende, applekatura belgileri bilen yzyndan ýazylýar.

3.11. Güberçekli – nokat şekilli interwal belgileriniň ýazylyşy

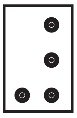
1. Sekunda


34

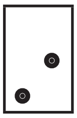
2. Tersiýa


346

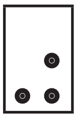
3. Kwarta


3456

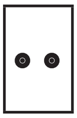
4. Kwinta


35

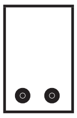
5. Seksta


356

6. Septima

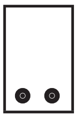

25

7. Oktawa



36

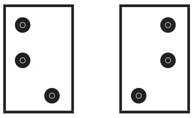
Prima interwal ýazylýar, oktawa belgisi ýaly, ýöne öňünden oktawa belgisi ýazylýar.



36

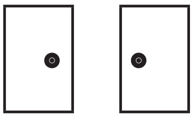
3.12. Güberçekli – nokat şekilli ses belgileriniň her hili uzynlykda ýazylyşy

1. Uly birleşdiriji



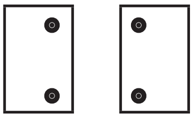
126 345

2. Kiçi birleşdiriji



5 2

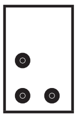
3. Takt bölüji



46 13

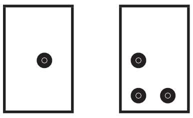
3.13. Güberçekli – nokat şekilli artikulýasiýa belgisiniň ýazylyşy

1. Stakkato



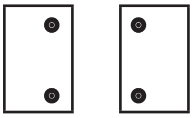
236

2. Lýure



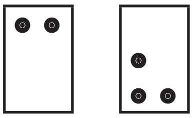
5 236

3. Takt bölüji



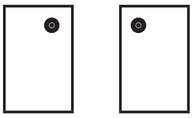
46 13

4. Portamento (nonlegato)



14 236

5. Glisando

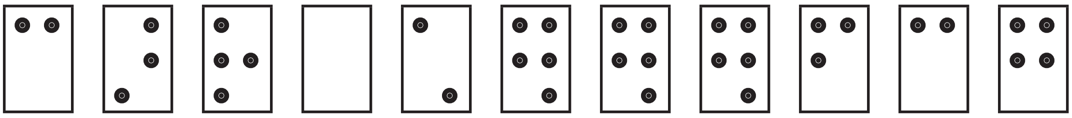


4 1

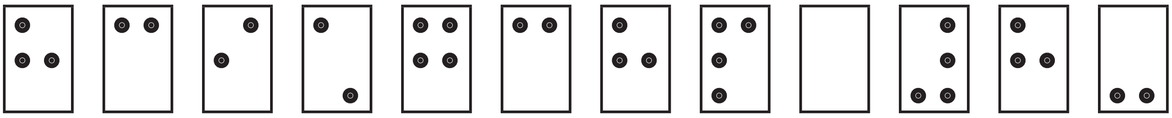
3.14. «Watan üçin ýaşalyň» aýdymyň braýl ulgamynda ýazylyşy

Uly uly ýerinde
Kiçi kiçi ýerinde
Bagtly gözel geljegi
Hyjuw bolsun serinde

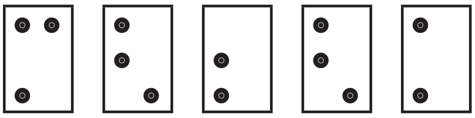
6	3	345	34	123		146	3456	12	23		
3456	145	134		126	2356	5	1246	12456	1256	12456	
246	16	12456	1234		1246	12456	1256	1245	14	125	
246	16	12456	1234		246	246	246	125	14	24	
2456	2456	26	245	14	1235		16	12456	12456	12456	36
124	14	1245		1256	16	12456	26	125	14	1234	
246	246	246	125	14	24		245	14	145	24	36



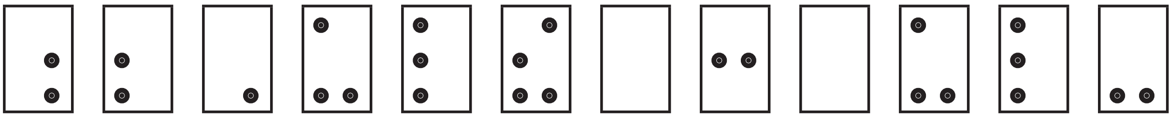
14 345 1235 16 12456 12456 12456 124 14 1245



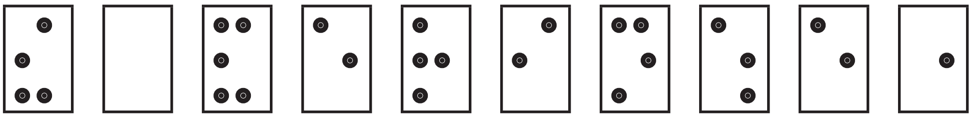
125 14 24 16 1245 14 125 1234 3456 125 36



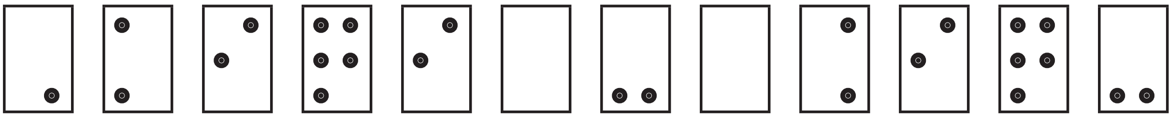
134 126 23 126 13



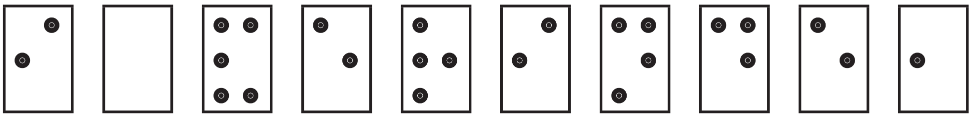
56 23 6 136 123 2346 25 136 123 36



2346 12346 15 1235 24 1345 156 15 5



6 13 24 12345 24 36 46 24 12345 36



24 12346 15 1235 24 1345 145 15 2

6 12 1 1245 2345 123 2346 2 1245 1236 36

1356 15 123 1245 15 123 1456 15 1245 26

6 125 2346 1456 136 2456 12 135 123 234 36

136 1345 234 15 1235 24 134 145 15 3

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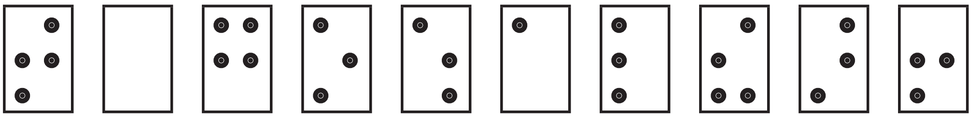
6 135 345 1 1245 135 156 1 1345 2345 36

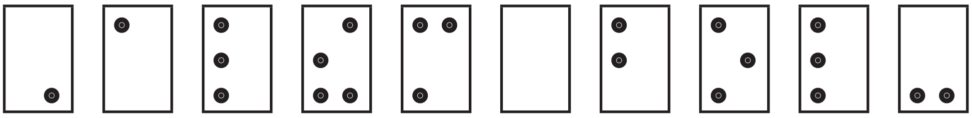


2345 1245 135 156 1 123 2346 345 235

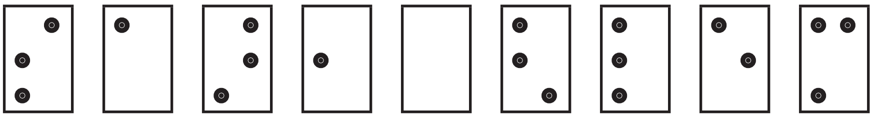
Ylym, bilim, kitap, hünär barada ata-babalarymyzyň pähim-paýhasy siňen käbir dürdäne sözleriniň ýazylyşyny kitabymyzyň şu ýerinde ýerleşdirýäris.

Güberçekli - nokat şekilli nakyllaryň ýazylyşy

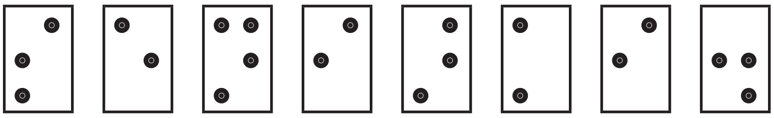
1. *Alym bolsaň, Älem seniňki.*



6 1 123 2346 134 12 135 123 36

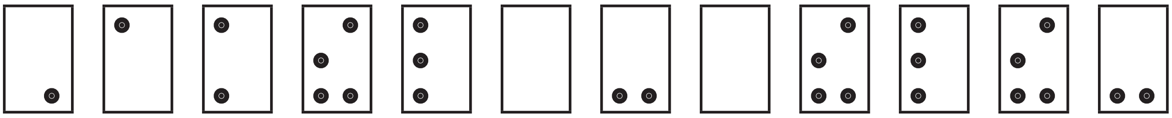


234 1 345 2 126 123 15 134

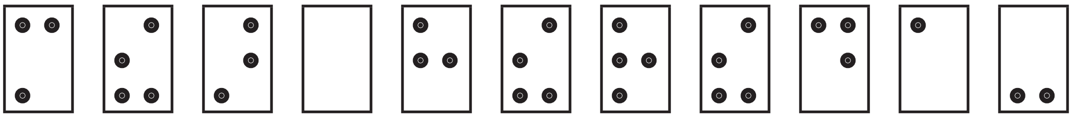


234 15 1345 24 345 13 24 256

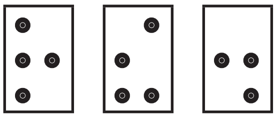
2. *Akyl – ylmyň hyrydary.*



6 1 13 2346 123 36 2346 123 2346 36

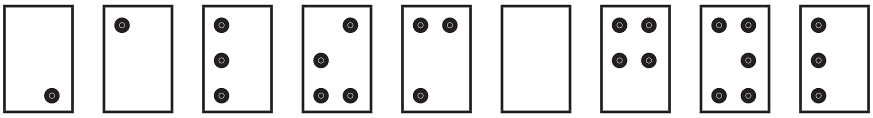


134 2346 345 125 2346 1235 2346 145 1 36

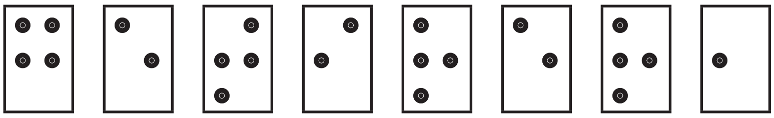


1235 2346 256

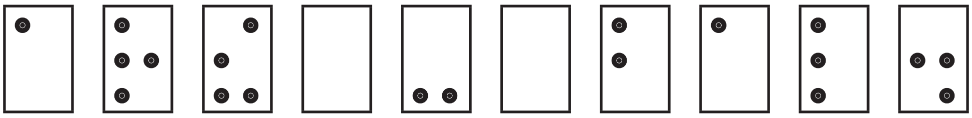
3. *Alym gül getirer, ary – bal.*



6 1 123 2346 134 1245 13456 123

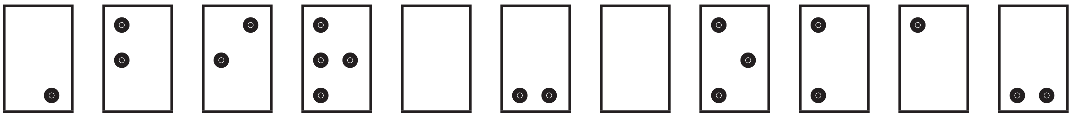


1245 15 2345 24 1235 15 1235 2

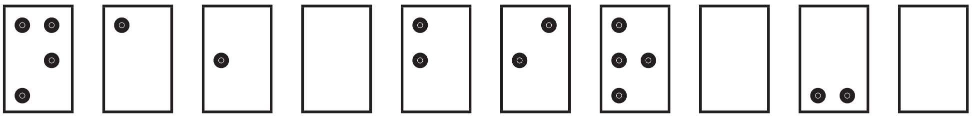


1 1235 2346 36 12 1 123 256

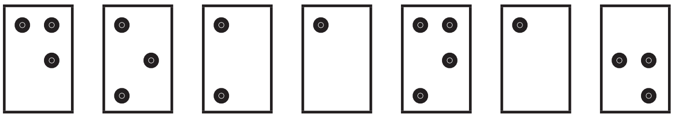
4. *Bir – okana, bir – dokana.*



6 12 24 1235 36 135 13 1 36

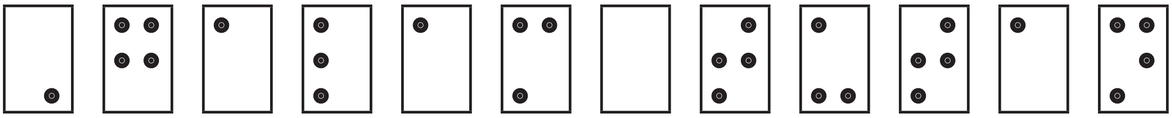


1345 1 2 12 24 1235 36

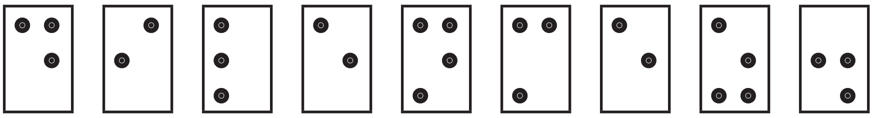


145 135 13 1 1345 1 256

5. *Galam tutan dilenmez.*

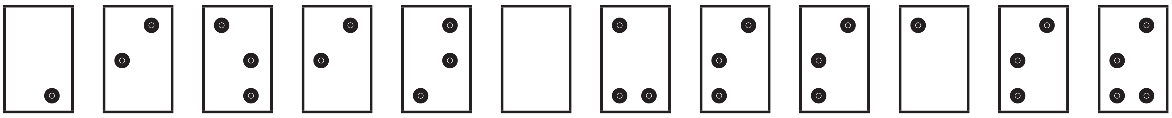


6 1245 1 123 1 134 2345 136 2345 1 1345

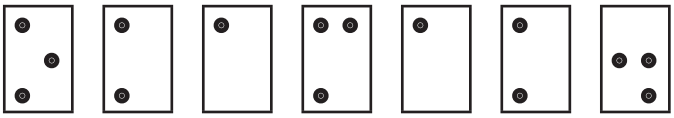


145 24 123 15 1345 134 15 1356 256

6. *Işiň ussasy okamak.*

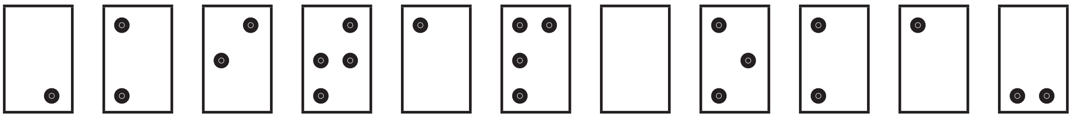


6 24 156 24 345 136 234 234 1 234 2346

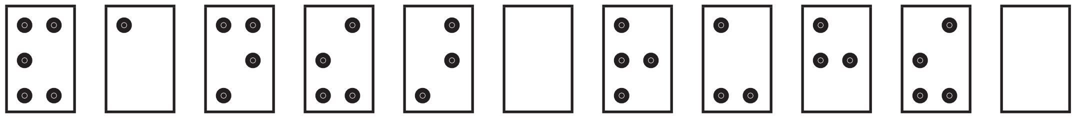


135 13 1 134 1 13 256

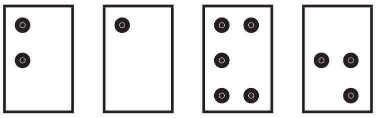
7. *Kitap okaýanyň ruhy baý.*



6 13 24 2345 1 1234 135 13 1 36

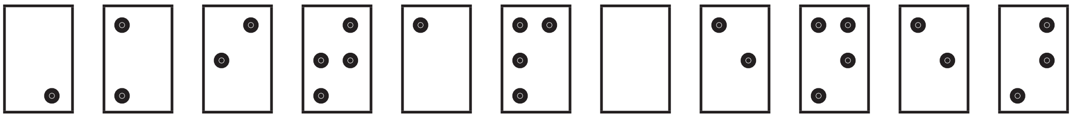


12346 1 1345 2346 345 1235 136 125 2346

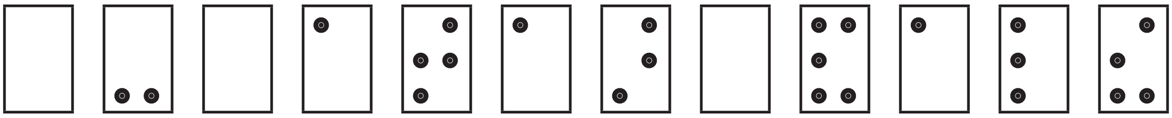


12 1 12346 256

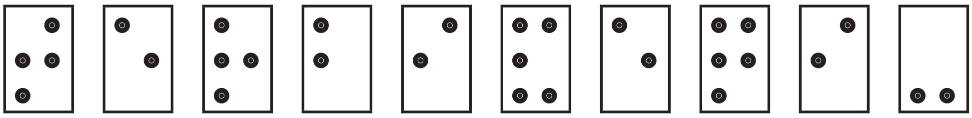
8. *Kitap eneň-atań ýaly terbiýeçidir.*



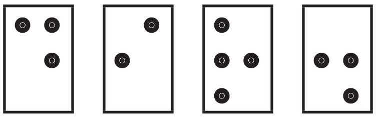
6 13 24 2345 1 1234 15 1345 15 345



36 1 2345 1 345 12346 1 123 2346

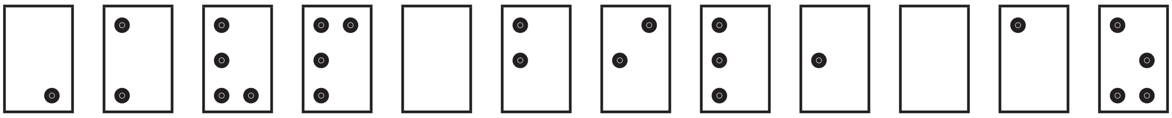


2345 15 1235 12 24 12346 15 12345 24 36



145 24 1235 256

9. *Köp bil, az sözle.*



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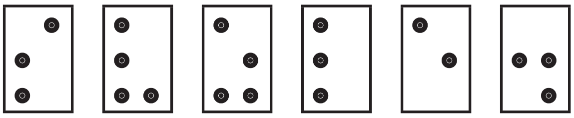
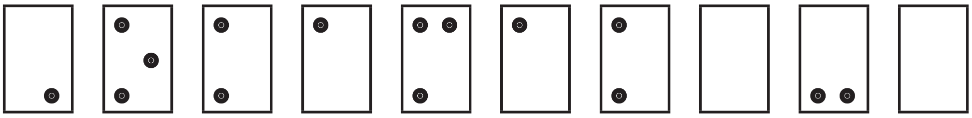


234 1236 1356 123 15 256

10. *Okamak – iňňe bilen guýy gazmak.*



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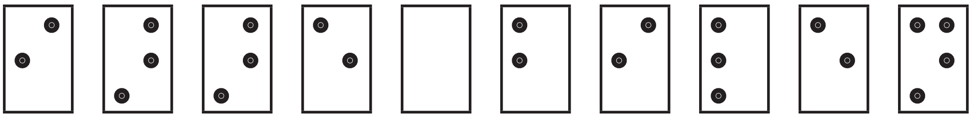

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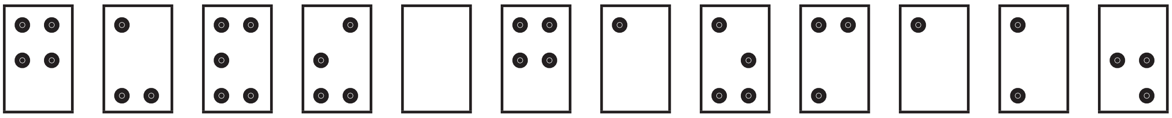
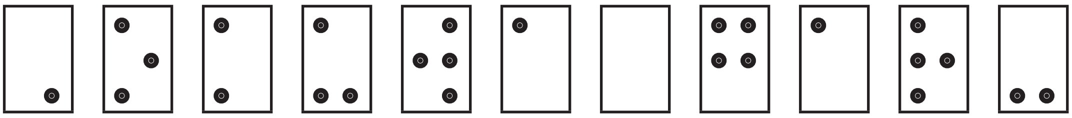


1245 136 12346 2346 1245 1 1356 134 1 13 256

11. *Okuwa garrama ýok.*



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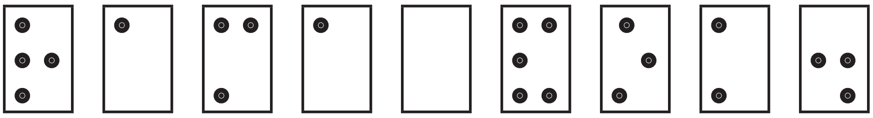
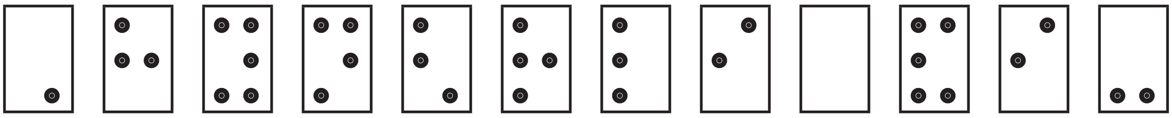


1235 1 134 1 12346 135 13 256

12. *Hünärli ýigit – miweli agaç.*



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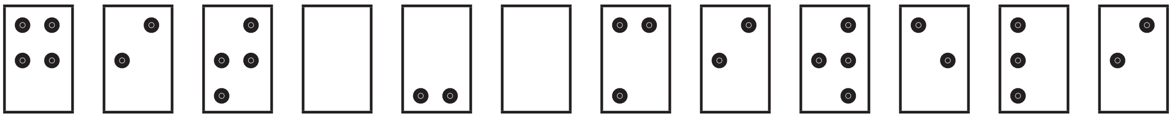

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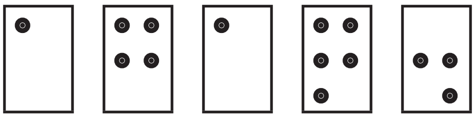
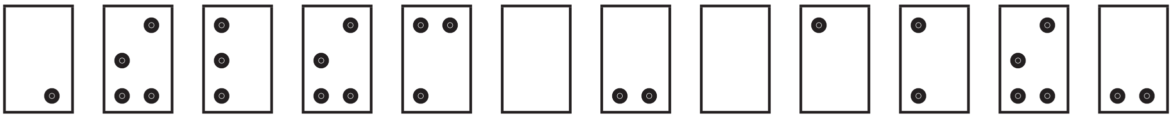


1 1245 1 12345 256

13. *Ylym – akylyň ýarysy.*



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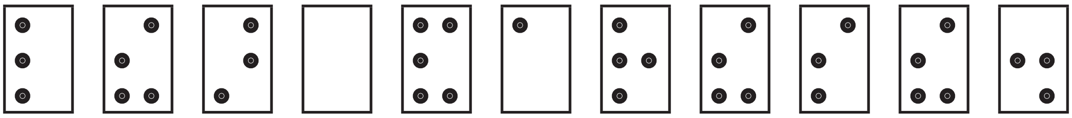

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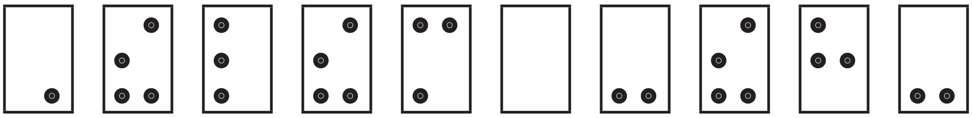
14. *Ylym – yhlas.*



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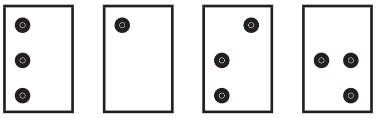
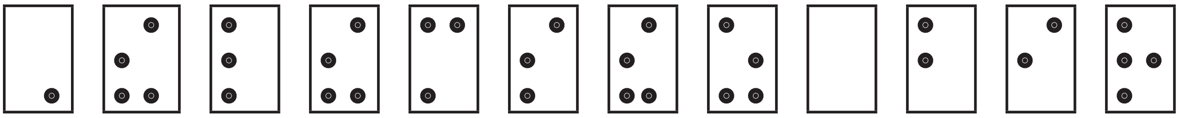


123 1 234 256

15. *Ylymsyz bir ýaşar, ylymly – müň.*



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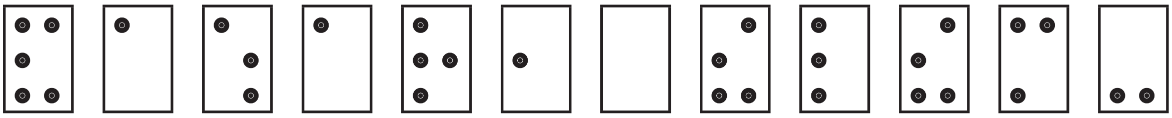

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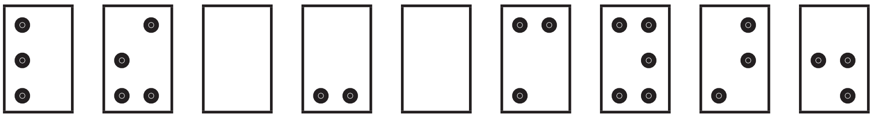

123 2346 36 134 13456 345 256

Peýdalanylan edebiýatlar

1. *Gurbanguly Berdimuhamedow.* Döwlet adam üçindir. – A.: Türkmen döwlet neşirýat gullugy, 2007.

2. *Gurbanguly Berdimuhamedow.* Garaşsyzlyga guwanmak, Watany, halky söýmek bagtdyr. – A.: Türkmen döwlet neşirýat gullugy, 2007.

3. *Gurbanguly Berdimuhamedow.* Bilim – bagtyýarlyk, ruhubelentlik, rowaçlyk. – A.: Türkmen döwlet neşirýat gullugy, 2014.

4. Paýhas çeşmesi. – A.: Türkmen döwlet neşirýat gullugy, 2016.

5. *Акимушкин В. М., Моргулис И. С.* Основы тифлологии. – Киев. «Радянська школа», 1980.

6. *Алексеев О. Л., Ермаков В. П., Смирнов В. Н.* Технические средства трудового и профессионального обучения слепых и слабовидящих учащихся (Учебное пособие). – М.: 1989.

7. *Денискина В. З.* Средства обучения математике в начальных классах школ слепых. – М.: 1991.

8. Дети с глубоким нарушением зрения. *Под ред. Земцовой М.И., Каплан А.И., Певзнер М.С.* – М.: «Просвещение», 1967.

9. *Ермаков В.П.* Графические средства наглядности для слабовидящих школьников (Учебное пособие). – М.: 1988.

10. *Ермаков В. П..* Обучение слепых и слабовидящих школьников. – М.: 1989.

11. Методы учебной работы на уроке в школах для слепых и слабовидящих детей. Журнал «Тифлопедагогика № 2» – М.: «Педагогика», 1975.

12. Некоторые особенности обучения и развития слепых и слабовидящих детей (Сборник научних статей) *Под ред. Земцовой М. И., Солнцевой Л. И.*– М.: 1975.

13. Опыт работы незрячих работников интеллектуального труда (материалы республиканского совещания). – М.: 1979.

14. *Потешина М.Б., Рогушин В.К.* Обучение чтению и письму по системе Брайля. Всероссийское общество слепых. – М.: (ВОС), 1991.

15. *Сизова А. И.* Ерошенко В. Я. (К 100-летию со дня рождения). – М.: 1990.

16. Справочник Активиста ВОС. Всероссийское общество слепых. *Под общей редакцией Кондратова А. М.* – М.: (ВОС), 1985.

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Kulmuhommed Amanow, Gadyrgeldy Muhammedow

Gözi görmeýän başlangyç synp okuwçylaryna Lui Braýlyň ulgamyndaky güberçekli – nokat şekilli ýazuw alamatlaryny, belgilerini öwretmek

Saglygy dikeldiş okuw-terbiýeçilik toplumlarynyň başlangyç synp mugallymlary, terbiýeçileri üçin usuly gollanma

Redaktor	*A. Aşyrowa*
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Neşir üçin jogapkär	*A. Babaýewa*

Çap etmäge rugsat edildi 24.06.2022. Ölçegi 60x84 $^{1}/_{8}$.
Şertli çap listi 13,02. Şertli reňkli ottiski 45,56.
Çap listi 14,0. Hasap-neşir listi 13,53.
Sargyt № 285. Sany 150.

Türkmen döwlet neşirýat gullugy.
744000. Aşgabat. Garaşsyzlyk şaýoly, 100.

Türkmen döwlet neşirýat gullugynyň Metbugat merkezi.
744015. Aşgabat. 2127-nji (G. Gulyýew) köçe, 51/1.