

Ileoidiaiee. Ideliet aenoeay. Naitnoa yeeodiii-aidi-iu idaidia.

A aniepoi aieueinoaa neo-aaa onodienoaa niadaiiite yeeodiiiie ecaioaaeapony ec iieoidiaieeiauo idadeaia. Iie neaaoa0 caiaoeou, -oi dace-ea iaao iieoidiaieeiaie e aeyeeodeeiale oieuei eiee-anoaiaa, oiaaa eae dace-ea iaao i aeyeeodeeiale n oiuiuaiiu oaeuiiu nioideaeiaie, oiaaa eae n iaodeeiale o ieo cia-eoeauii laiuoa iauii...

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À NODOEODÀ È YÍΔΑΑΟÈ×ΑΝἨÈÄ ÇÍÍÙ IIEÓIΘIÁIÁIEÉIA À aniepoi aieueinoaa neo-aaa onodienoaa niadaiiite yeeodiiiie eieuiduo aieuo, -ai o idiaieeia (iaaeia), ii laiuoa, -ai o eieyoidia (aeyeeodeeia). Ndao neaaoa0 caiaoeou, -oi dace-ea iieoidiaieeiee yaeypony dactiaeinouy aeyeeodeeia, iiafi neaou, -oi iie yaeypony aeyeeodeeiale n oiuiuaiiu oaeuiiu n dahnioadao eo nodoeo0o e yadaade-aneaa ciu. Epaia daaia oae i daanoaeyao niatie iiaanoai adia, neeuii acaeiiaae epaii neo-aa anp niatieoinou adia a eonea daadaii oaea neaaoa0 dahnioadeaou eae aeior oaeop nodoeo0o, eioiday iia dactiaeiioo ciu. Nodiai aiaiy, dactiaeiioo ciu niae eiapo aeneadaioy nodoeo0o e nioiy eca aieuii -enea dactiaeiioo n ieiuiie. Ia den. 1.1 iadaaaaia ciiaay aeadaiia aey iieoidiaieeiee. Iadaaa anaai, neaaoa0 iaodeou aieiaiea ia caidauaiioy oae -oi caidauaiie ciu o ieo ia. Oedeia caidauaiie ciu Iyc, iiaaeyuay yadaade-aneee iiaaeoie caidauaiioo yadaae, y daaia nioaanoaaii 0,7; 1,1 e 1,4 yA. Aadoiy dactiaeiiaay cia iacuaaony ciie idiaieinoe. Yeeodiii, iaoyueeny a yote dactiaeyuony yoeie yeeodiiiie. Ieaiyy dactiaeiiaay cia iacuaaony aaeaiioie ciie. Yadaade-aneea odiaie yote ciu iaui-ii dactiaeyuony oaeaa iiaoo eciayou naiy yadaep iia aaeoaeae yeeode-aneiai iey. Anee aa ana odiaie ciu caieiaiu, oi aaeaiioia yeeodiiiieodee-aneea iieoidiaieeiee daanoaeypo niatie edenoaeeu n daaeoydite nodoeo0ite. Edenoee-aneay daodea edaey iiaaeeaiinoe a0ai dahnioadeaou nodoeo0o edaiy. Yi nioaeeaeai oioy au iioio, -oi iiaeeceoeuii 97% ana eca iae-eey nioode-aneoo iaaiiuo nee, aicieepueo ide iadii iaueaeiaiee aaeaiioo yeeodiii. O niaaieo adia edaiy iyaey iaoyeony ia aieaa aao yeeodiii. Iineieueo adii edaiy eiado -aouda aaeaiioo yeeodiii, oi ii enieueo0o yoe yeeodiii a Oaei iadaci, iieo-aaony, -oi epaie adii edaiy nayai n eaauie ec -aouda niaaieo adia iaueae iaote, ide-ai ia yote iaui iiaeu daodee (a) e ciiaay yadaade-aneay aeadaiia (a) aey anieiaiaai edaiy. Ia yoi deniea iaao eaauie aoiy adii o yoeo adia. Aa ideiyoi iacuaaou naycu (aaaeaiioie naycu).A Aaeaiioie yeeodiii, iaoyueeny a oaeie nayce, ii yadaee dahnioa. Iaieioia aaeaiioia yeeodiii iieo-apo io daiea yadaep, iaiaoieloy aey eo iadaoiaa a ciio idiaieinoe (den. 1.2, a). Oae a iadaciiee oiea a iieoidiaieeiee (ide ieeieaeiee iaioyaeie e iieoidiaieeiee). Iyaeeia aaeaiioo odiaiee a aaeaiioie ciu n ioiaeeiey oiea -adae iieoidiaiee. N iauaieeai oaiadao0o aicdaoaa -enei naiaaiiuo yeeodiii a cia idiaieinoe e -enei aaeaiioie ciu e nioaanoaaii eiecediaaiioy aaeaiioy naycu ideiyoi iacuaaou audete. Audea yaeyuony iiaaeaiiu iieoaeai iia aaeaiioo naycae. Ioiaoei, -oi ioiaai iadaciiee naiaiaia yeeodiii e audete ideiyoi iacuaaou aiaadaeae. Iineieueo a dahnioa yadaade-aneie aeadaiia (ni. den. 1.2, a) idanoaeeai a aeaa edoaei-eta n nioaanoaopueie caeiae cadyaia. Nioaeiee iaoye iieoidiaieeiee, eioioie ideiyoi iaia-ao aoeaie i, iadapony aaa oiea iiaaeaiiuo iieoaeae cadya: naiaiaia yeeodiii n e aiee iaoneiaeiioy, - nioaaiie yeeodiiiiainoy. A iieoidiaieeiee yeeodiiiiee, a ioe-ea io nioaaiie yeeodiiiiainoy

title=Ideianiuo iieoidiaieeiee) A A A A A A A
IΘEIANIUO IIEÓIΘIÁIÁIEÈÈ Ideianiuo iieoidiaieeiee ideiyoi iacuaaou iieoidiaieeiee, yeeodiiiiainoy eioioie iaoneiaeiioy yoe aaeaiioo yeeodiii yoiat yeaiaia anoiyo a naycu n -aouduiy niaaiee adiaie edaiy (iaiaai adia niaanoaaii iieoidi iieoaeu cadya iiafi aaea iadao0o aai io adia e iadao0o a naiaiaiee iieoaeu cadya iiafi aaea ide aicaeinoeae iaiee n niatie adii oinoia. Ia yoi odiaia ide i-aiu iecete oaiadao0o e a0aa iaoyeony ecauo-i-ii yeeodiii oinoia. Ide iacia-eoa iaoneiaei ionooaeae aaeaiioia yeeodiii). Eiee-anoai yadaee, iaiaoieloa aey ioaeeiey ecauo-i-ia yeeodiii e iadaciiee daodee e ia iiaao iadaiauoony iiaaii audea. Oaei iadaci, iyaeeia a edaiee adia oinoia ideae e iadaciiee a cia iia aaeinoaiiuo adii ideiane (1014...1018 adia / ni3), iyoio e ideianiuo odiaiee iieo-aaony aiaieuii iia. Ideianiuo odiaiee iadaco ideiane ideiyoi iacuaaou aiiidaie. Ideianiuo dactiaeiioo odiaiee, ideineia aiiidaie, iacuap aiiidiue. Ideianiuo iieoidiaieeiee, eioioia caanu yaeypony iiaaiue iieoaeeyie cadya. Audete a iieoidiaieeiee n-oeia yaeypony iaiaiaiee iieoaeeyie cadya. Au anieiaai iieoidiaieeiee). Eoae, ca n-ao aaaaiey aiiidite ideiane iadacoony yeeodiiiiee iieoidiaieeiee, yeeodiiiiainoy auidi-iue iieoidiaieeiee eiee iieoidiaieeiee d-oeia. Oaeie iieoidiaieeiee iieo-aaony ca n-ao aaaaiey a iaai daoaeaiioo adia iadacuaaony iacaiieiaiee, iaiee iia ia iaao cadya, o. a. adii aida yaeyuony yeeode-aneie aeodaeuii. Ide aicaeinoe aae iyaeyuony eoeiee yeeodiii, o. a. adii aida iadao0oony a ioeoaeuiiee eii. Eiecediaiaay naycu adia edaiy (ec eioioie y caanu neo-ap (den. 1.4), iaia-ai dactiaeiioo yadaade-aneee (aeoioidiue) odiaai IyA, eioioie ideian n niatie adii aida. Yo aeoioidiue odiaai, caoadae ide yoi iaieuooy yadaep, daaiop yadaee aeoea0e ideiane (IyA a°a° 0,1yA). Oaei iada iieoaeeyie cadya. Yeeodiii a iieoidiaieeiee d-oeia yaeypony iaiaiaiee iieoaeeyie e eo i-aiu iaei (d a°a° np).Eoae, ca n iadae-aneie daai -enee eiecediaaiiuo aeoioidia. Ide dahnioaiee ideianiuo iieoidiaieeiee iaui-ii enieueo0o iioyoea A «eioi

eiioaiodaoey aiiidfa Na, oai aieua e eiioaiodaoey yaeodifia, a -ai aieua eiioaiodaoey aeoioidfa NA, oai aieua eiioaiodaoey
 nifanoaaiiue (nk = pk), ii elaad dya eiodaaniuo naitenoa e ioee-ee. Iaiotiaei iodiodeu, -oi danhiiodaiiua auoa idioanhu yaeyp
 auniiea idienoiay e iadaoiua iadaoiua. Iniafa aieiaiea iadaoei ia oi, -oi iaiadaaii n aaiadaoeae iad «yaeodii-aiodea» id
 daeiaieaeae (naitaiiue yaeodii iadaoiue ec ciuu idiaieiue a aaeaiiop ciu). Ide iaeioidie onofiaeaeeeny daiiadaooda i
 iadaoiua iieoiidaiiee yaeyoay odiaaiiua Oadi, aadiyoiinu caiteiaey eioidia ide daiiadaooda, ioee-ife to aaniopofai ioy,
 nenoiu, eaete au daciidafie ia ie auua. Aey nifanoaaiiue iieoiidaiiee odiaaiiua Oadi idioiaeo ii nadaaeia caidauaiiee ciu. A
 yaeodifia (e anaai iieoiidaiiee) caanu aaaa auua. Neaiaaadaeui, a yaeodifii iieoiidaiiee odiaaiiua Oadi aieaei iadiae
 caidauaiiee ciu, ide-ai oai iea, -ai aieua eiioaiodaoey aeoioidfa. Iaiotiaei iodiodeu, -oi iieii danhiiodaiiua caanu ioeian
 aey yaeodifii e a aaeaiiofe ciu aey aui-ifa iieoiidaiiee. Ia iadaoea iau-ii eniuecopony auidaeaiiua iieoiidaiiee n ne
 3). {mospagebreak title=Iniaiaua iadaoiudu iieoiidaiiee}A A A A A A A

INIIAIUA IADAIADU IEOIDAIIEIA Auua auee iea danhiiodaiiua iaeioidua iadaoiudu iieoiidaiiee, a oi -ene e naiue
 yaeodiiidaiiue iieoiidaiiee. Yoe iadaoiudu -anoi eniuecopony ide ienae ioeiea aaeioay e oadaeoadenee iiaeo y
 iaaeaiinu iueoaeae ii iadaaeaeep anou eo naaiiy iadaaeaiay neiou a iieoiidaiiee ide iadiyaeaiiue yaeode-aneia
 aieuae eiadoeiiuoy auidie (nifanoaaiiue eiadoeiiuue aaeaiiofa yaeodifia), -ai naitaiiua yaeodifia. Iaeiaea cia-eoda
 iieoiidaiiee iai yaeaiia. Ionpa noaiaey iiyoiiu idaeioanhai auni-anoioiu yaeaiia, ecaioiaaiuo ec yaeodifii ad
 danhaiyey iueoaeae. Inieueo n iauuaieai daiiadaoode oaae-eaaony eiouneaiinu eieaaiey adiiia edeioaeae-aneie da
 Aey edaiyey i-oeia iaeii caieuo $I\% = I\%O(O / O)3/2, (1.1)$ aaa $I\%O$ - iiaaeaiinu iueoaeae ide ia-aeuie

iieoiidaiiee iadaoeae; ioee-ea caeep-aadny oiuei a aae-eia ieaodaey noaiaie. Iiaaeaiinu iueoaeae cadya a i
 aieueo iadiyaeaiiue yaeode-aneia iey (aieueo cia-aiyoe edeoe-aneie iadiyaeaiiue Aed) iiaaeaiinu oiiauaadny ii q
 iueoaeae cadya ide A = Aed A (aey edaiyey n-oeia, iadiad, Aed= 2,5 eA / ni). Iiaaeaiinu iueoaeae cadya naycaia n ad
 aaa $I\% = kO / q$ - oaiiaie iadaoeae, eioidue ide eiiiaoiie daiiadaoode iadaeaeaii daaa 26 IA; k - iioiyiaa Aieuiia; q - cad
 aaeiui iadaoiudu iieoiidaiiee yaeyoay adaiy aeciie I,, Daee-apo iaiiadaaaiiop daeiaieaeep e daeiaieaeep -adac eia
 auiiaaiiua ia iiaa adnaeaa aaeey e iaeioiduo adoeo iieoiidaiiee, iaiiadaaaiiay daeiaieaeoy iiaeo eadao aaeiop
 aeaaiop die eadao daeiaieaeoy -adac eiaoee (den. 1.5). Eiaoeae iacuapony aeoiiee yadaoe-aneie odiaie, daniea
 edeioaeae-aneie daeoe iieoiidaiiee. Daeui anaiaa nouanoop e iaeiee aadaeoiua odiaie (odiaie ieeiaiey), eioidue
 Daeiaieaeoy -adac eiaoee idenoiad a aaa yoaia: nia-aea yaeodii iadaoiue ec ciuu idiaieiue ia odiaaiiua eiaoee, a ca
 daeiaieaeoy e nifanoaaiiua iauua I,, Iyoiu iaeua adaiia aeciie naitenoaaiiue ieeoeoaeae, aaa aadaeou danieaeaiiua ia ana
 iauua nee-aa aaeaeia iueoaeae cadya a iieoiidaiiee iadonetaaii aaoiy oee-aneie idioanhai: aeodoeae e adaeoiu
 iueoaeae cadyaia. Aaeoiu iacuapony iadaaeaiiua iadaiauea iueoaeae cadya ia aaeioaeai yaeode-aneia iey. Ca ad
 danhiyiea, ia eioidii eiioaiodaoey iueoaeae oiiaueony a (~ 2,7) dac. Aeodoeaiiop aeio iaeii iadaaeoou eae A L = aSD
 iieoiidaiiee. {mospagebreak title=Idiaieiinu iieoiidaiiee}A A A A A A A

IDIADAIINU IEOIDAIIEIA Inieueo a iieoiidaiiee eiadny aaa oia iiaaeaiiuo iueoaeae cadya, oaeuiay idiaiei
 Inieueo aey nifanoaaiiua iieoiidaiiee ia nifanoaaiiue daaiiua-ii, iaeii caieuo: $I\% = qn(1\%n + 1\%p)$. Iodiad, -oi eiio
 Inieueo Iµq, o adiaiey iauua, -ai o edaiyey, ni, o adiaiey aieua (ieaeoeoaeui ia ode iadyea), -ai o edaiyey. Aiaie-ii
 iauae aey epaia nioiyey iieoiidaiiee n-oeia. Ane aiiidaiy idiaiu aeoeaeidiaeaiu, oi n iaeii caieuo ia ii. Oaeuiay idiaie
 (1.3) e (1.4) iicaiyao naeao aaeiue iadaoe-aneie auia: ide daaiie eiioaiodaoe idiaie yaeodifiiue iieoiidaiiee aaaa
 idiaieiue iieoiidaiiee, iadiad yaeodifii. Oae eae ide daiiadaoode aaniopofai ioy a iieoiidaiiee ionoanoop naitai
 nee-aa yaeodii n aiiiduo odiaie (aiiidie ciu) iadaoiay a ciu idiaieiue (ni. den.1.3), -oi nifanoaaiiua aicdanaiep n a
 ecaoi-ia aaeaiiua yaeodiiu, idiyoi iacuapou daiiadaoode aeoeaeae taed. Yoa daiiadaoode iadaaeayony oei ioeiaie
 yaeodifia iadaony iadaoe-aneie iioiyie. Yoi nifanoaaiiua qn = const a oiioea (1.3). Neaiaaadaeui, oiaadu eiaiaiea idia
 idiaieiue iadaoe-aneie, oi idiaieiue iieoiidaiiee daci adnaoae. Caanu daiiadaoode noaiaeyony oae ainoai-ife aey iadaa
 idiaieaadao ia idiaieue, oi idiaieiue iieoiidaiiee daci adnaoae. Daiiadaoode taed, ia-eia n eioidie idenoiad aicda
 yaeyony edeia caidauaiiee ciu. xai edea caidauaiy cia, oai aieua taed. Oae, aee aey edaiyey taed a% 330 UN, oi aey a
 taed. Aaniopofa aieueieoiu iieoiidaiiee iadaoe-aneie e eniuecopony a yoi aeiaiaa daiiadaoode (iau-ii aaeae
 eioidie aai idiaieiue oiiaueadny n diou daiiadaoode. {mospagebreak title=Nioeoda e iiaiaua naitenoa p-n iadaoia}A A

NIOEOODA E INIAIUA NAIENOAA d-n IADAIUA Idaeaa anaai, danhiioeii aaa iadaoa iieoiidaiiee n yaeodifii e au
 iaiiaaeaiiua iodeoadaeuiua eiu. Ia den. 1.6, a audee iaiia-aiiua ciaaeie A «iepnA», a iodeoadaeuiua eiu - ciaaeie A «ieionA», a
 Aiaie-ii iaiia-aiyey cadyaia a aui-ii iieoiidaiiee a yaeodifii iieoiidaiiee yaeodifii iaiia-aiiua ciaaeie A «ieionA», a ii
 a 2 dac -aua, -ai a yaeodifii. Oiaadu iadaoaei, -oi danhiiodaiiua iaie aaa iadaoa yaeyony idioi iaeaiyie aeiaie ede
 iaiidie, - ec iaeanoe d a iaeano n. Anoda-aynu ia adaiiea d e i iaeanoae, audee e yaeodii daeiaieeop. Neaiaaadaeui,
 Ni noiidii iaeanoe iaeapony iieoadaeuiua cadya aiiidfa, a ni noiidii iaeanoe d-iodeoadaeuiua cadya aeoioidfa. Iaeano
 iaeanoep, eia y aaeo daci niaaiiop eiioaiodaoep iiaaeaiiuo iueoaeae cadya. Eiaaa yoo iaeano iacuapou caidaiiue netai y
 iaeiaie. Inieueo a danhiioeaiiua iaie nee-aa NA = 2NA (iaieiaode-iue iadaoia), idiyaeaiiue iaeanoae danieaeaiy q
 nifanoai-eeaaony a neaiaaeodifii (auniioii) neta. A daeuiuo d-i iadaoiaa eiioaiodaoe aiiidfa e aeoioidfa ioee-ai
 neaiaaeodifii -ane. Edeia iaaiaaiiua neta (i-aeano) a daiaaiiua nioiyiee IO (ni. den. 1.6, a) yaeyony aaeiui iadaoia
 ieaai ia ciuie yadaoe-aneie aeadaia d-i iadaoiaa, eiaadaaiie ia den. 1.7 (aaa IµF - odiaaiiua Oadi). Ioiiaaeuiue aadu
 aey anaai iauua iieoiidaiiee e danieaeai a caidauaiiee ciu. Inieueo a iieoiidaiiee i-oeia odiaaiiua Oadi niaua aad idio
 daciadaaiiua ciu yaeodifii yadae. Neaiaaadaeui, a iaaiaaiiua neta aeadaia yadaoe-aneiee ciu enedeaeayony. Caiadai, -
 aaduaiidii, idaiyonoaao idioaeaeep yaeodifii ec iaeanoe d-oeia a iaeano i-oeia e auidie a iadaoia iadaaeaeie. Aieaa nodia
 eiiiaieeodoo idioan aaeodoe iueoaeae cadya, a daciueoada -aai oie -adac d-i iadaoia ia idioaeaa. Aieechedoy den. 1.7,
 aaduaada ITO oiaaiiua aadaeou a aeieoae iadiyaeai-ley - aieuoae. Aiaieui neuiia aeeyiea ia aae-eieo ITO iacuapou edeA
 - 0,7 A. Edeia d-i iadaoiaa ai iiaii iadaaeayony aae-eiee ITO. Yoi oiioe aeai ec iauae oiioeue aey IO ide Na eAe° Na:
 nifanoaaiiua. Aae-eiea IO iau-ii nifanoaayao aanyoua aiee eee aeieoie iediA-iaoda. Ec (1.5) neaao, -oi aey nicaiey o
 daaiuo eiioaiodaoey idiaie IO aaaa aieua o d-i iadaoia n aieuei ITO e, neaiaaadaeui, n aieuae Iµq. Oaei iadaaii, o e

èñííèùçíàáíèè ìàáððííñòù èðáííèàáúð ð-ì ìáðáðíáíá ìíèðúàáàòñy çàùèòííé ìéáíéíé SiO2. Ýòí ìíèðùðèà, ñ ìáííé ñòíðííù, ìðàèðè-áñé ñ-áò ìáðàçíàáíèy èáíáèà (ì-áíù òííéíáí ñéíy) ñ-ðèìà á ìðèíàáððííñòííé ìáèàñòè ð-ðèìà, ìíÁ-èðùòíé ìéáíéíé SiO2. Ìòíàðèì, -òí èáíáèà ìà ááí àáèè-èÁ-íó è àèèyòò ìííàèà òàèòíðù, áñá æá ìíæíí ñ-èòàòù, -òí ìí àíçðáñòàáò ìðè òíáíùðáíèè ðèðèíù çáíðáùáííé çííù ìíèè èðáííèàáúð.
 {mospagebreak title=Ìðíáíé p-n ìáðáðíáíá}Á Á Á Á Á Á Á
 ÌÐÍÁÍÉ ð-n ÌÁÐÁÓÍÁÁ Éàè ìòíà-áèíñù áùðá, ìðè ðááí-èò àáèè-éíáð ìáðáðííù ìáíðyæáíéé IO ìáááÁ-èèè. Ìáíáèí ìðè ìðááùðáíèè yáèáíèà ðáçéíáí óááèè-áíèy ìáðáòííáí òíèà ìðè áíÁ-ñðèæáíèè ìáðáðííù ìáíðyæáíèà ìíðááèèáííáí èðèðè-áñéíáí çíà-áíèy. Áñá ðá ìáíðyæáíííðèè yéáèòðè-áñéíáí ìíèy á çáíðííí ñéíá ð-ì ìáðáðíáá, à ðáíÁ-éíáúá - ñ óááèè-áíèà ðáññáèàáííè ìíùííðè è ñíðááòñò. ìíááððííñòííé. Áèà ÁÁÕ yéáèòðè-áñéíáí ìðíáíy ìðááñòàáèáí ìà ðèñ. 1.13. Ìíííáííá áíáøíáá ìòèè-èà ðáçííáèáíííðàé yéáèòðè-áñé ìáù-íí áíçíèèááò ìíèááíé ìðíáíé. Á ìíííáá ìíèááíáí ìðíáíy ìíáóò èáæáòù ìáñéíèùéí ýòááèòá. Õàè, ìíá ááéñòáèàí áíèùòíé ìáíðyæáíííí ýòááèòíí, ìíðáááÁ-èyòùè ðáçàèòèá ìíèááíáí ìðíáíy, ñòáííáèòñy òóííáèùíúé. Yéáèòðè-áñéèè ìðíáíé, áíçíèèáòùèè ìíá ááéñòáèàí y èááèííúé ìðíáíé, ìáðáíèçí èíòíðíáí çáèèò-ááòñy á èááèííí ðáçííáèáíèè ìíñèòáèáé çáðyáá á ñèèùíí yéáèòðè-áñéíí ìíèá ìíá ááéñòáèà ìðíáááá, ìíáóò ìðè ñòíèéííááíèè ñ ðáøáòéíé èðèñòáèèà ðáçíðááòù ááèáíóíòò ñáýçù. Á ðáçéúòáòá ðíæáááòñy ìíááy ìáðá Á«yéáè ìíñèòáèè çáðyáá òñíáèè ìðéíáðáñòè áùñíèòò ñéíðííòù, ìáÁ-íáóíáèíòò ìðè óááðííé èííèçáòèè, ìóòù è áðáíy èò ðáçáííá áíèæíú áùè èñííèùçòòùèò ñèááíèááèðíááííúá ìíèóÁ-ìðíáíáíèèè. Á ìáèàñòè ð-ì ìáðáðíáá, áùñòóíáòùáé ìà ìíááððííñòù, ìáù-íí èíááò ìáñòí çíà-è ðáçéúòáòá yòíáí ìà ìíááððííñòè ð-ì ìáðáðíáá ìðíèñòíáèò yéáèòðè-áñéèè ìðíáíé ìðè ìáÁ-ìðyæáíèè, ìáíùðáí, -áí á ìáúáíá. Ýòí yáè Á ìáèíòíðùò ñèó-áyò ðáíùðá, -áí áíçíèèíáò yéáèòðè-áñéèè ìðíáíé, ìíæáò ìðíèçéòèò òáíèíáíé. Á ìðéíòéíá ñóúáñòáòáò ìáñéíèùéí ð áíçíèèáòùèè çà ñ-áò áíèùòíáí ìí. Ýòíò ìðíáíé áíçíèèááò á òáò ñèó-áyò, éíááá ìà ìáñííá-èáááòñy ìáíáðíáèíúé ìòáíá òáíèà ìò ð-ì ìá òíé. Ìíñéíèùéó ìí ááèèè, òí áàæá ìðè ìááíèùòèò ìáðáðííùò ìáíðyæáíèyò (ìáíùèò ìáíðyæáíèy yéáèòðè-áÁ-ñéíáí ìðíáíy) áùááèyáòñy Õàèáý áçáèííáýçù ìðéáíáèò è ðáçéííó óááèè-áíèò òíèà, ò. á. è ìðíáíò ð-ì ìáðáðíáá. ìà ðèñ. 1.14 ìðèááááíá òèííááy ìáðáðíáý áá áèèçéíé è òèð. Çáíàðèì, -òí áñèè IO áùòíñ áèáííááòy yéáèòðè-áñéííó ìðíáíò, òí ìíñèá yòíáí ìíæáò ìáñòóíèòù òáíèíáíé ìðíáíé. Ñíñ ó-áñòíé ñ ìðèòáòáèèùíí ñíðíðèèáèáíèáí. Ìáíáðíáèíí ìíá-áðéíóòù, -òí òáíèíáíé ìðíáíé yáèyáòñy èðáéíá ìáæáèáÁ-ðáèèùíí yáèáíèà òíèííáðáíè-èáàòùáá ñíðíðèèáèáíèá. Á Á Á Á Á Á Á Á Á Á Á Á Á