

CbK bh³ stNPaB xül ecj cU sM g nig ePgbRW

4>1 esckppm³

enAküEpkenHeybBnitüemll hanPyrbSaRspMh 4 RbePTeGay)anBispr³

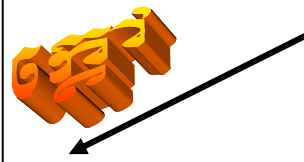
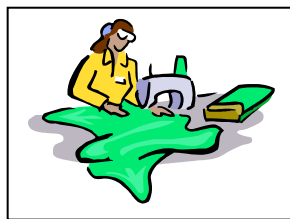
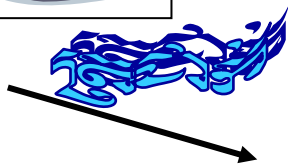
- stNPaB
- xül ecj cU
- sM g
- ePgbRW

hanPyTajGsenhmanpl bBal dl saxPaB ngsutPaBrbskmpkrneyaCitenAtameragRk katedr ehlytRmU[manynkarTbsatmychM.

4>2 stNPaB³

kmpkrxRbQmngklt yagxsénsstNPaBedl CaepkmyenkargarRocafFtpsxü. enAkm&a kmpkrCaerhRbQmngl kxRbMA ngsMNm eTAcayagenHkpankmpkrctictEdl CbRbThbriyakas kargarRtCak; -kmpkrEfkarenAkEngspRtCak; kEngkaes GkeRbmasbkMÜVzH Caedm .I.; -emll rbTl5;.

rbPaBTl5³ stNPaBenAkEngEfkAr



stNPaBRtCakkRmbg&abBa&sb; kmpkr enAeragcRkkatedrNas;. kmpkr efkarenAbnbKtmlledayeRbkMÜVz CbngstNPaBRtCak briyakasebb enHpl ;l Tpl xssMomasbkMÜVz minEmnsMbkmpkrE.

kmpkreragcRkkatedrCaerhCbngbriyakasekA ngsMsb;CaBessenAepkGt. manvFankar TbsatmychMedl GacykmeR)asedm, bBa&stNPaB.

BtmanTØTA³

I TPabBj kargarbskmkrRtUoHbal edayefkarkgubriyakasek. I kxNbykücNan I kxNBSMan²stokargarokbedayI TøI I ¥KfrkSasItINPabsRSl enAküKengefkar. tam BitstINPakügeragcRkmanPaBxis²KæyagtandrU ehlyvFmYchMgacRtUeKerbedm,edaRsay bBaenH. manmeFüa)aysManBEdI tamry³enHkMA -bPaBRtCak; cU eTAKügeragcRk.

- edaypøI ; tamgø Tø \dæul ; I .
- edayRbeyal tankarcMgkMAaggtamsMar³CakEspénsMgGkar eBal KMMU CBady nigkMl eRkam. TayGsenHeFUEkøBj myéføAEBI RBHGatitürH ehlykMARTU)anbBaicU eTA briyakasxagkø CaBakBabefUEkø nigstødI kmkr.

manvFankarmYchMedI GkrKbRkgGacRbkanyk edm,BüayambnRykMARBHGatitükU cU eTAKügeragcRk. vFankarTødenHman³

- Fana[R]akdfaCBadyEpkxagerkArabesU Taykarok nigTaykarI abfaINP edm,beBas kMA.
- EkI MkarbeBas kMAéndM
- EkI MPabmncMgkMAénCBady nigBidan -Bnitül TPabénkardakCatisMükgCBady bEnBidanmncMgkMAenABERkandM . fUbraCaMSEdI Gséføch vaKb,RtUKitenA køKMagsagsgfTayGs; ehlysMar³RskEdI mantM efakKb,ER)asya[)anech tamI TPabCakEspøI .
- Fana[R]akdfa eragcRkRtUmanmb,tamEdI GaceFVan edaymeFüa)ayFmCati -edmeQI KemateQIrbgeQIs; I .; beFKMmbøTael bgø nigTøCaedM -cMNAkardakr)abmb; BMb,tayenApüU bpeçj smosutPaBeT; . enAtankariyal Yéfø el akGkGac BnitüEXlj fa bgøRTUkdakBN' [ggø bmankBarij BnBHGatitüecj . RbkarenHBM EmnCaMssMberagcRkkatedreT BERBaEt karcMlayCMsGayRsl nigGséføak KWabkø)arel Epkxagel Enbgø¹⁶ .

¹⁶ dkRsgcej BësovePAENnabS;ILO SpkarEkI M kxNBargar nigpI itPaBkø] SShkmkatadr J.C Hiba (1998) .

etkM/AeFI[bHBal dI kmkrkj] sSahkmkatedrdtampxheTA?

cBakmkrkj] sSahkmkatedr kM/AecheBkbgā[manBaEpkisutPaB nigspPaB¹⁷ dt eTA³

sutPaB³

sPaB³

- GskMaj nigvil m
- ecj eBa)atéd-eFI[rGil ;
- kareLgRs GabénEvtasutPaB
- Gacr I ak
- karbBj kargarfyctI bfyctIkarRogRoyYā
- kareral Rk hayekheLg

- kartgEtgGarmNedaykM/A bexSahkMaj
- edaykM/A -eRkomRkM
- karckkerayedaykM/A
- karehvh tedaykM/A bēMNs ptedaykM/A
- knū rmasedaykM/A -kM/AeFI[esab ;
- snb; -xül K ;

bBašutPaBTMgCamanI kN³CakEsgCagbBaEpkisPaB]TahrN_ EtgEtmanhanPyén
 karl akcBakmkrkjrenAepkGūt tamry³karbHedayécdnüCamYngqāGūteka. manTmhareTarkPaB
 BakBabcheLgéneKalfik; kōxN³eBl edI kmkr)atkarēptGarmN_ kanfethvhtGskMaj
 nigRkhI Rk hay.]bkrNGacrGil RChedaysa)atéd nigRmanédmaneBašesm tamry³enHbEnfn
 nUbBaEpkisutPaB. bBašPaBakBvSTAngbriyakasekēnAkEngEfkATMgCamanI kN³bgb;
 eRchCag ehlymanpI bHBal dI kmkrnéyaCitedaysnSm².

ettgkayTb;T/ CamYkM/AedayrebbNa?

enAkūbriyakasekē nigsnab; kmkrGaccaj kM/A ehlyeFI[RtCakxūt amFmCateday
 meFūa)aymYcMh³

- tam karbeBaj[©]chay - edaybeBaj[©]eBaš¹⁸ .
- tam karbMAYkM/A - edaybeghcrmpQam nigstINPaBénRsTabEs,k. vaRtUkarnūwtB
 RtCak;²enAEk,rxū edm,I[vFmanRōsitiPaB.
- tam karēpkM/A-edaybpkM/Avagēpēnragkay nigxül enACMj . vaRtUkarcI naxül eTb
 manRōsitiPaB.
- tam karcmgkM/A-edaybpkM/Aedaypāl rvagragkay nigvtRtCakēhlyng.

¹⁷ dkrsgmlyEpkēcj BēsovePaBNpBNpI sMbm@FkarkgarbS;ILO eroberogeday A.Vahapassi (2003) .

¹⁸ \Tb;I RtCakēnkarEbkej Ismandchsnisnāb;. manka)anRōmaNifa karbeBaj[©] s 100ml manpI RtCakespjkarebllkk 0.5Kg bespjkTkr
 RtCak;1.6I Rt .

ettel akGikTbsat kMAenAkEngelFkartanrebobNaxit?

manvFCanU daemychnstbedarSayanPyénkMAenAkügeragcRkkatedr. vFITajGS;
sMAkatbnrykarTTV rgkMAedaybeBas kMAecj Bkmkr tamry³ ÷

- vFITbsatedaybecReTsviskmpu
- karbTMMabeFkar
- kareRb] bkrN_karBarbKA -CameFua)aycgeRkay!

karTbsatedaybecReTsviskmpan³

- kareRb] bkrN_karBarbKA -CameFua)aycgeRkay! ehlyeFIC
R)akdfa \dxül ;Tt CaedmBntUmanG)ableT.
- kareRb] {Rb] bkrN_karBarbKA} edayerRb] garedm, katbnryslitNPaBenAtanEpkmY
cMnéneragcRk -kardak; tajkgärenAkEngRtmRtU Kllansa³ sMan; Nas; emil rBPBTI22
nigTI23!.
- eRb] bkrN_karBarbKA xül ecj enAkEngelka dtdCaepkGtt edm, RsbkMAecj edaypal BRbPBkMA
tamEdI GaceFJan -emil rBPBTI24 !.
- eRb] mashiRtCak;

karpasbTMMabeFkar³

- beglicMh nigry³eBI QbsMk
- dak:[eRb] bkrN_karBarbKA kargarek] k]eKal bMNgkM] km]kreFkargarek] ehAfa {kargarek]
CabCanicBk.
- eFICkargarek] enAeBI RtCakbMtténéFQ]
- pl] kargarek] [km]kreRchnakeFEdm, bnry/bn]kkargarek] ehlykm]kreM]ayebI xbnAkü
briyakasek].

eTahCananeRb]FGkedaysMbnryslitNPaBenAkEngelFkar Rb]karsMan; K]RtUmanpl] ;Tk
RkbRkansM]b; [km]krhb. ePSc@Kb, RtCakmanI ayT]kEpaQI betRk]dqr. T]kEtmYm]xK]tng
na]mankarm] sacd]l.

¹⁹ Rb]kasel x 54 s]karp] ePSc@Gnam]y bBakB]sck]l]Rm]leGayniyaCkpl] ePSc@manGnam]y I bnAkEngelFkar.



rtPaBTI22 nigTI23 ³ kgöreRbenAkügeragcRkedm,bn&ystltNPaB.





rtPaBTI 24³ enAeragcRkkatedr kgärRtU) andaktajedm, bnfy sItNPaBenAtanTitajmly
 cllh. enHCakmkrEdI mankgärBkagxügKat, sllb; [kEngeFkarrbsKatRtCak; eTahCayag
 deçllkp kgärCanicRal RtU) anekDakenAkEngminRtmRtU Caeh taFU [lhténxül yil vl eBj
 eragcRkTajmU . kgärkbllyFU Clj eragcRkpgEdr.

ethanbTdaæCatissllkNt/sItNPaBenAkEngeFkarbet?

Rokasel x 147 sPbriyakaskllAkEngeFkarEcgfa³
 niyaçkRtUetbegll [manbriyakaskllAEdI smRsbTambTdaæEdI GaçTTV yk)an. briyakas
 kllARTUetmanI kN³smRsbetAtansuPaBrbskmkr nigmineFU rMandI kargarrbsBkek.
 briyakaskllARTU) anvas,gedaysItNPaBbgäj enAel RodabyassItNPaBenAtankEngeFkar
 . enAküGKar beragCagEdI manbriyakasFmpta kmkrmak²Kb,manTllkEngyagtic 10EmRt
 RtKIN. kEngeFkarRtU) ankarBarBkllABHGaTitüedaypal ; rebobpI itNaEdI minbegll [
 mankllARTUetykmkGnutp ebpl itkmpegllnllkllAkllxs; niyaçkRtUonfykllAeday³
 - bllkRodabkarBarkllAenARTgEpikEdI beBaçkllA
 -RsbkllAecj ehlybeBaçkllAecj BRbPBrbsya.

kükrNEdI kMAnAkEngEFlkareLbxseFl[bHbal dI sXPaBrbskmkr beFl[rMandI ;
 kargarrbsBkeK niyaCkRtUrkkRkomeFüa)ayTajGseFl[kEngEFlkarRtCakdbCatM bkğr
 mashRtCak;RbBkBeBaJ xüI RtCak;CaedM.

EtCaGkisI manGFkardækargar nigeragcRkkatedrEtmy bBEdI man]bkrNRtmRtUsMö;
 vassItNPaBenAkEngEFlkar.

eTAcabTbBaBManbBakGBBtdanCak;I aksMokMtsItNPaBxs bMtkp manekal karN_
 ENnamy chMEdI KtsbBakBk,üGnutpxH² sMbeFlkargar nigQbsMkenAkübriyakasekA. Qit
 myénékal karNENnamH K)anmkBIsnisITGamrkajenBkGnamyvitünvisy] sShkmpbsrdap)al
 (ACGIH) pp nU]TahrNGBkareFlGaymantu üPaBrvagkargar nigkarQbsMk eshLgeTAtankM
 sItNPaBxs²KasMokkargarFlkargarIsal nigkargamFüm.

kargar beI sMk	kargarIsal	kargamFüm	kargarFlk
kargareFlbnp	30/0	26/7	25/0
75° eFlkar 25° sMk	30/6	28/0	25/9
50° eFlkar 50° sMk	31/4	29/4	27/9
25° eFlkar 75° sMk	32/2	31/1	30/0

-kMtsItNPaBrbs; ACGIH KitCadUKsg;TRkad RtU)anasEvgedaysnbsSnSItNPaB Wet Bulb-
 Globe (WBGT) EdI pp nUrgtsBitR)akdmYGBM kxNBAAC,asCagsItNPaRtFmpraEdI eRb)art
 nigGaku EdI Gacvas;)anEt sItNPaB bEnpinGacvasPaBSNIm bkMAY)aneT²⁰1.

ctcgcaM
 Cakar sMan; RtUdgBPasNmenAxagkügeragcRk. ebragcRkekA ehlyssMö; dMNIkarén
 kargaredayecj ej Is K)anRbsItPaBeT ehlykmkrslkügeKalfakBkMAYeBk.

²⁰ sItNPaB Wet-bulb RtU)anasedayssItNPaRtEdI enAkü sItNPaRt endGBM RtURKbedaybnTeFGBIsésG)alqprmanRbsItPaB)ajkarBarBkarbMay
 kMAYehlyrgnUcmküI EdI eFlI nayagrHs .
 sItNPaB Dry-bulb K)anRtdaénsItNPaBxüI yasedaysItNPaRtFmpraehly)ajkarBarBkMAYEdI Payecj .

- Büayam Fana Gay) anfa dNrkarp l it {mankMA} dCkEpikGtt RtUmanTltaylenAbnbbBl CBady {manxül bkcej } eTbkMARTU) andkecj edaypal ecj eTAEkA CaCagRtU)acsac vil v l eBj eragcRk -emll rüPaBTI6!.



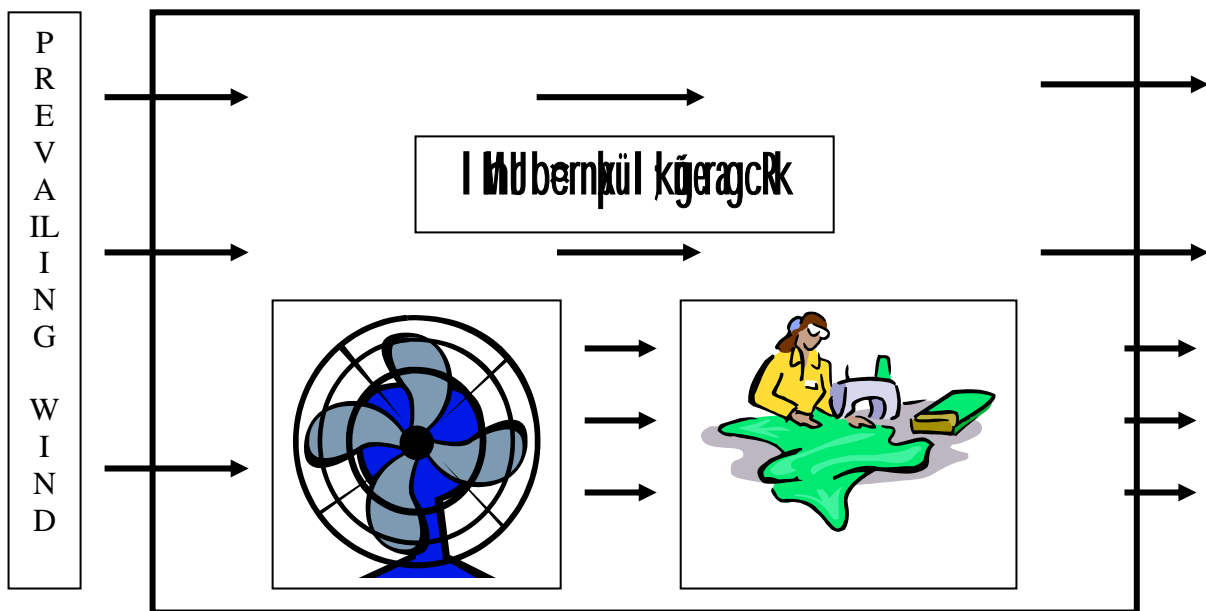
rüPaBTI25³ Fana faga kğrTajGsbeghcrnkül éneragcRk.



rüPaBTI26³ eRbrebbTaj xül kğneragcRkeLgeTAEI l. kğrbWTajenHCYbeBağ xül ekA. Etsbhemll tMU eFhHöbsingt.



rtPaBTI 27³ kgörenHbökxül edaycMBAleTArkdMkNatEdI eFlGayratJSHdI ;I Mhxül ;
RokbedayRbsitPaB. ctemil eTAEExSePlq.



rtBTI 6³ eRokgöbBairedmI, begmcrnpxül küeragcRk. dakdMNIkarénkargarmankMBA
nigmanFU lenACabCBatgenAxagerKA ehlyRsbecj xül Bül Rkxk:

kjkrNEI mankarekteLgnUsarFatBul Rkxk; bkeMAnAtanEplkmYchMeneragcRk RobkS
 bUxül ecj enAtankEngTajenah RtUetebolsModkecj nuhanPz. RbePTénRobkS Uxül enH man
 eRokarRsbxül; Rsbkin Taya bMgedmlbMatihanPzeGay)anCiteTAngRobPbtanEdI GaceFJan
 ehlybeBaj ecal eTAkj bryakasxageRkA. RobkS hdnRkarsedogKæTAngdnRkärenmasbRsb
 FU Edr bEnpanTMMageRchNas;-emll rBPBTI28! .



rBPBTI 28 ³ bMgUxül enAtankEngEfkar EdI RsbFU ecj Bmasbedr cU eTAkj Fgsjk
 SNI I EdI RtUekacecal ral efq cbsMal bMgRsbRtU)aneKdakenAekokngRobPÉnhanPz.

ethanbTdamCatisMabRobkS Uxül ecj cU bel?

- Robkasel x 125 sRRobkS Uxül Gakas ngkarsMatkEngEfkartRmUeGay ³
- neyaCkRtUerobcNyagNaedml,eGaymanbryakassat I enAKEngEfkar edmlrkSasutBab ngsuPaBrbskmlkrneyaCit .
 - RobkS Uxül enAKEngEfkar RtUkAnbryakasRkxk; ehlyGacmankarbeBaj bBaP Uxül tam FmCatingtanrebobsb,nimitp
 - eolsarFatRkAhfikenAKEngEfhinGacbMat)anTajRsgel neyaCkRtUetbeBats hanPz pal eTAtanRobPbnatanEdI GaceFITA)an ecj eTABryakasxageRkA RsbetAtanc,ab; karBarbrish.

bTbBaenHk/BakpgEdr GBkarrmU [neyaCkpl nURodabkarBarbKA [)ansmrmü ebl
hanPyminGacTbsát)anedayRobBwüül ;TATA bRobBwüül dakenAtankEng.

4x4 bBartVBnitüsMbsitNPAB nig xül ecj cU

)at cas	eT	skmPaB RtUGnutp
etIsItNPABenAkügeragcRk RtU)anrkSænAkMEdI eFkar RokbedaypasuPaBbet?			
etmankEngNaxlekA bRtCakenAkügeragcRkEdrbet?			
etmankmkrneyaCittU EtGBkEngTajenaEdrbet?			
etmanrcrnixül FmCatecj cU)anI ¥-tanTür tanbgü EdI ebkcM tan\daxül ;Caedm. I . ; enAkügeragcRkbet?			
etbrnixül RtCakRtU)anbEgthn [bkcMkEdI manGasn ³ eFkar enAEk,matbgü Tür . I . bet?			
etbrnixül FmCatenHRtU)anrajxbedaymanEtLaj bRbGb; dak\vanecj cU dchhYsRomaN Emnbet?			
etkgärRtU)aneKbBakenARTgkEngEdI Bmanrcrnixül ; FmCateRkbRkan;Emnbet?			
etkgäreFU EpSg FU lbsarFatKhEdI maneRkalfak;vil vI ; enAeBj eragcRkEdrbet?			
enAküdmNkarpI itCaEdI GacRtUbeBa [®] ecal EpSg FU I Ca edm. I . etmanbBakRobBwüül bec j enAtankEngTajenaHbet?			
etRobBwüül bec j TajenaHbWüül Rkxkecj eTAXagerKA eragcRk RokbedaysutPaBbet?			
etItRngsMatenAküRobBwüül TajenaHRtU)aneKRtVBnitüCaRbcaM bKRtU)aneKbpec j CaRbcaHbet?			
etbrnpgüxül enAküRobBwüül TajenaHRtU)aneKRtVBnitüCaRbcaM bet]TahrN_tamry ³ kareFltspdayEpSgCaedm?			

4>5 sM g
BtmanTETA

sM gRoEh I CahanPyymykjcmNamhanPykargaEd I mansPaBFMFg nig)anspnminRtU.
kMtsM gxsKWobekitmanenAtanEpkCaerchen]sSahkmkatedr BessenAtameragcRkTajLay
NaEd I manmasht,aj . minRkbsM gTajGsEd I eygB^α sU[†]catfaCasM gfg[†] eRkABnH
eygTajGsKaEj cit[†]spRoepTepSq²enbTepg. eygFabBsM gtanreboxis²Ka. GkxteXlj
farkray nigBukeBaI ÉGkxteToteXlj fafg;nigminKYCaTtkray. dechTsSnaTanGBGCasM g
bsM gtmg; KWaRszel bKA mäk² EteT[†]CayagenHkp vamanPaBc,as;I asfa kmkrGacmankar
xdesatj aNrbseK kujkrNkKWCaGcē[†]hy_ebkMtsM g bsM gtmgxseBk. mnnsSCaerch
kMtfasM gfgCasM gminRtUkar nigminKYCaTtkray.

sM gfgGaceFI Gaymanp I bBal CaerchsNaemanCaGaT²

- sM gfgGaceFI GayekitkartantgGarmN_ (Stress) ehlyMand I kareptGarmNEd I
CahteFI GaybHBal dI ;I TPaBbBj kargarrbsel akGk. RokarenHCakt[†]CMj eGay
maneKahfakAkEng[†]eFikarenAeB I Ed I kmkr)atkareptGarmN_ nig)atkar sMbsM .
kujry³eB I yb bBaenHoegekartantgGarmNEd I GacnaAGaymanbBa[†]sxPaBmYchM
rinTajbBa[†]hdj RkBH nigdMNXsRoRkt[†]enRoB[†]osAT.
- sM gfgGacxb;berCotERCkarsnhaenAkEng[†]eFikar ehlyGacbNpl eGaymaneKahfak;
enAeB I Ed I karERskRBmanBMac[†]spB^α
- kmkrTTV rgkMtsM gxs; Canic[†]Ral mankarBj)akedkenAeB I eKeTAd I p[†] nigGs[†]kMaj
CaBocaldaymanGarmNfa ehvhtRkbeB I . kmkrx[†]bel bfa[†]MatkarQWabCabCabcad
edml,bl)atkarQW,al Ed I bgeday sM gfg;. KpGKVeGayPa[†]kep[†] eTenAeB I kmkr Taj
enRt I beTaeFikarvij karbBj kargarrbsKatngfy[†]ch. kMtsM gtmgxsenAtan
kEng eFikar RtUeKKitfa Cakt[†]naAGaymankarGvtpanekehLg.
- kmkrEd I TTV kMtsM gxsrg[†]eKaHBGEd I eKsAl fa Cakar)atbgkars[†]pbgeday
sM gtmg; (NIHL) Ed I GacnaAGaymanbBa[†]sgAmYchM kmkrTajenHCanic[†]Ral min
GacB^α by I GB[†]karENna[†]hAkj kargareT. BkeRtUpatecj Bkarsnha kujxN³Ed I
kmkrddKa smaCkRkYsar bmitPkp[†]ankarFij fbedayRtUniyayR)abeLgvij RkberGgTaj

Gs: BkeKRTUettemgvU bhTBTsSn_nigvüüGayxdtRhUdI GkdeTeTotminGacRTa)N
EdI naGayeklkareQdRbEkkKäenApH.

etSM gtmgeFI GaybH Bal karsporbseygdtempxd?

pI bH Bal rbsSxPaB edaysarsM gfgetael karspo; KWaksyCabzmeTael kntSM g
ngry³eBI énkRTV rg. ekayBcMlayeBI xbnAküEpkd7g)NamyéneragcRk ebel akGkEcj
eTAEKA beTakanEpikmyEdI sqt;el akGkGacktsMal eXij fael akGkBMacs(öB)anI tKüry³
eBI BbhaTI. karsporbseI akGkRtU)anbnycd ehlyI kxNöbenHrtU)aneKsÁI fa)atbgkar
s(öCabeN)HGasnEdI bgédaysM gtmg;. RbePTén {karfg} enHGacRTI b)ateTAvij ehlyng
)atbnpmg²ekayeBI sMkmlyry³eBI xb eTAcadecikp ebel akGkTTV rgsM gfgkanEtyd
KWakanEtsBI EvgedmleGaykarsporbseI akGkRtI bmkdbedmvij . eTAcayagenHkpnAeBI mk
dI cNlomyEdI karsporbseI akGkEI gRtLbmkCaFmptavij ehlyI kxNöbenHkayCaGcë®ly.
RokarenHrtU)aneKsÁI fa)atkars(öCaGcë®lyEdI bgédaysM gfg;. kükrNöbenH el akGk
RtU)anTTV rgsM gtmgechhSgsry³eBI yagyb ehlycMkEdI gayrgkarxtdxaténGgAsat
j aN RtU)anb(öj CaGcë®ly_KM gGacEkéx)anehly. enAeBI kmkrCabep(ö)atbgkars(öbenA
eBI d(ö)j mansB(ö)BmanmychMEdI CaRokarsMan;³

- kmkrGacsMal eXij fa kasnhaFmptA(KM)aks(öB) bman(öB)aks(öB)GkNamakCECK
KaküghjmnisSbeECKKätanTtsB. bBaenHrtU)anxbmatc(ö)BmitPkpnigGkrlnkargar
enAeBI EdI mnsSrgelKaBkar)atesatj aNedaysarsM gtmg; (NIHL) cabemll bbd
matenAeBI mannrNamkCECKCamyKat;. müageTot BkeKsMbxüeTAtans(ö)PaB.
- RtecokGacRTaNTsdsM gTab²)anRsv CagstsM gxs². Cal T(ö)I vaK(ö)dsM gxs;
EdI)atCadM(ö)kenah ehtenHkmkrEdI TTV rgeKaBI NIHL nigsp(ö)BmnisSmansM g
F(ö)² Rsv CagGkrlnkargarEdI mansM gxs;
- enAeBI e(ö) bkmkrC(ö) eTakanEpikfg)NamyéneragcRk vaTgEtCakarKveGaycabGampN_
kükraktsMal G(ö)R(ö)tkmp(ö)S(ö)BkeK ebBkeKBManBakR(ö)dobkarBarRtecokNamyE.T.
etBkeK(ö)Rtecokr(ö)seKbet? etBkeK(ö)skedmleF(ö)karsnhabet? etBkeK(ö)j mkvij eday
R(ö)j abR(ö)j al bet? sdnakrTajenHKMansarsMan)Nas;

eKal karN₅amBa⁸

ebel akGikminGaceFkarsnhaKā)ankūstsM gFmpta ehlystēnAvū btsM gFmptaEdI el akGikOr
kūcJlaymlyhtBGikrinhkargar ena)anesckifa kltisM genAkEngēFikarxsNas;. EtctcgcaGik
rinhkargarbsel akGikGacemll bbtmatGikyI)an.

etēl akGikdgedayreboB Nafa kltisM genAkūgeragcRkxsēBk?

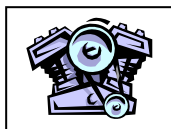
bBa⁸mlykūbBa⁸Ta⁸Lay K⁸WaxlikeGayexij faetisM gtmgenAtamEpikmlycMh K⁸Wanklt
xsh⁸ēBk. vFmlyK⁸UeFikavasEvg ehlye⁸RobeFobCamlykltEdI ekcatfa mansutBa⁸Tam
karK⁸MLtedayc, abCat²². CaGkisI maneragcRkEtmly b⁸Bt b⁸EFkardækargaEtch⁸Mmly b⁸Bt man
R⁸odavassM g edmleFikavasEvgS⁸M g. vFmlyeTot K⁸UeFikarGeg⁸t ehlysvkmp⁸rfa etB⁸Krk
exij kEngēFikarNax⁸hansM gfgēBk - ct⁸Rby⁸Kā kmp⁸rCa⁸rchngēqlyfa {vafgkal B⁸lūdy bēn⁸p
\Lūwas⁸hly.} ct⁸cgcaBakū {s⁸a⁸ūsehly}. eTminEmndūS⁸MKn⁸iyayenaeT kltisM genA
dEdI. G⁸Ta⁸LGS⁸EdI)anekiteLgenH K⁸W⁸Bkekcabep⁸)atbgkars⁸b;. s⁸M⁸U⁸Ca⁸FmptamanI ay
edaystsM genAk⁸ltvū b⁸ixs²Kā -B⁸ ngrI ks⁸M g -manēbkgTab b⁸xs⁸; . eybrkeXij fa man
kar⁸h⁸bBa⁸P⁸Kāēvū b⁸ ngrI ks⁸M gEdI eF⁸Gayb⁸H⁸al dI kars⁸p⁸rbseyg minEmnEt⁸vū b⁸mlym⁸x
bēN⁸ēT. stsM gx⁸sēF⁸Gayr⁸ManērchCags⁸stsM gTab. vū biēns⁸M⁸U⁸Rt⁸)anēkvasedayKit
Caeds⁸l eG (dBA) ÉI ks⁸M gRt⁸)anēkvasedayKitCa⁸h⁸ (Hz) .

enAkūgeragcRkkatedr⁸BoePTFmpta s⁸M gfgēcj mkBR⁸oPBepSg²Kā⁸mlycMh manCaGa⁸T⁸x
mashedr kltm,aj k⁸l⁸oss⁸v⁸i⁸ū⁸s⁸M gBkagekACaedm. s⁸M gtmgs⁸r⁸k⁸g⁸T⁸m⁸enrI ks⁸l⁸Rt⁸)an
bBa⁸ūedaypēl tamry³xūl; ehlyrtRtLbm⁸k⁸vij e⁸l b⁸hngCBa⁸ū nigB⁸dan RBm⁸Ta⁸ūg⁸kat,tanēp⁸
k⁸l⁸. CakarB⁸it ebel akGikenAq⁸lyBR⁸oPBs⁸M gkanEtq⁸lykal Na kanEts⁸teTA² ehlykanEt
manēK⁸h⁸f⁸ak⁸ticeTA² edayrI ks⁸l⁸atnūG⁸ūtg⁸s⁸l⁸trbs⁸va ehlyrI ay)atGs;. dēch⁸F⁸l⁸bs⁸āt;
K⁸U⁸U⁸enA[q⁸lytanEdI GaceF⁸lyanBR⁸oPBs⁸M g. EtCaGkisI kmp⁸rPa⁸ke⁸rchB⁸l⁸aceF⁸l⁸ēch⁸)anēT B⁸
e⁸Ba⁸B⁸ke⁸Rt⁸ūbBa⁸ūmashmansM gfg;. ebel akGikcgrkbBa⁸s⁸M genAkūgeragcRk el akGikK⁸b,
l⁸vass⁸M gBR⁸k⁸oPB ehlyKN⁸n⁸ak⁸ltis⁸r⁸o⁸Tē⁸T⁸edaye⁸Rob⁸art⁸d⁸ēds⁸l⁸. kavasEvgen⁸B⁸l⁸h⁸n⁸Cakar
Fmpta⁸EdI edays⁸arm⁸art⁸d⁸ēnen⁸H⁸o⁸L⁸kar⁸ltEdI enAkūgen⁸h⁸kar⁸pas⁸b⁸ 3 dBA manly⁸fas⁸M⁸l⁸ēk⁸h⁸ē⁸L⁸
B⁸rdg b⁸k⁸n⁸bdg.]TahrN⁸_eb⁸mas⁸b⁸ ehlymas⁸h⁸mly²beg⁸lt⁸k⁸ltis⁸M g 80 dBA edayx⁸ū⁸v⁸mly²

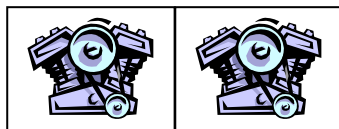
²² Rokasel x 138 s⁸l⁸s⁸M genAkEngēFikart⁸Rm⁸ēGayk⁸ltis⁸M gR⁸ca⁸l⁸F⁸pk⁸ltis⁸M gm⁸FimEdI kmp⁸rRt⁸ū⁸o⁸m⁸k⁸ūe⁸l eF⁸k⁸gar⁸bs⁸x⁸ū minRt⁸ūeGayel l⁸
B⁸l⁸85 dBA eT.

klm sM g srbEdI vabEaf³ KVB3 dBA -minEmn 160 dBA eT¹. ddKäenEedr ebklm sM gRtU katBI 90 dBA eTA 80 dBA man^{1/2} fa karkatbn^{1/2} enKManI k^{1/3} d^{1/3} Kä ebeygdkmash 9 ecj BI k^{1/3} cM Nammasu 10 EdI mansM gfgBragcRk -emll rBPBTI7¹.

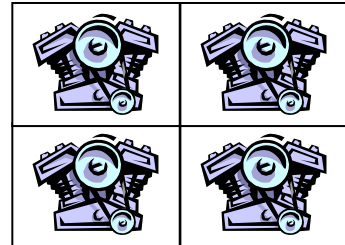
rBPBTI7³ PaBskspj énmaRtdanedSfbI



ebI 80 dBA



bnbmk 83 dBA



ehly 86 dBA

et hanklm sM gsut PaBbet?

EdI ehAfaklm sM gsut PaB K^{1/2} s^{1/2} eT¹ Ael W^{1/2} th nigry³ eBI ydbN^{1/2} el akGkRtUTTV rgva. enAkM GabT¹ d¹ sM gEc¹ gfa 85 dBA b^{1/2} n^{1/2} BManp¹ n^{1/2} esckp¹ Bak; [BitR) akdGM^{1/2} y³ eBI erkABeyageT¹ Atan {klm Roca^{1/2} F¹}. bT¹ d¹ an¹ GnpCatCa¹ rchs¹ MAdI; 85 dBA K^{1/2} W^{1/2} eBI eFikarRoca^{1/2} F¹ man 8 emag. ebkmkrRtUTTV rgklm sM gx¹ sedayK¹ n¹ RodabBakkarBarRtecok eBI énkarTTV rg RtU¹ Etbn^{1/2} yedayb^{1/2} enkmkr b^{1/2} p¹ ry³ eBI s¹ M¹ () anyb. taragK^{1/2} s^{1/2} xageRkamenH¹ p¹ n¹ ukark^{1/2} M¹ t; x^{1/2} énk^{1/2} sM gs^{1/2} M¹ ochM¹ emagEdI RtUTTV rg.

chMemagEdI TTV rg	klm sM gCa dBA
8	85 – 90
6	92
4	95
3	97
2	100
1.5	102
1	105
0.5	110

klm énkarTTV rgk^{1/2} m^{1/2} yéf^{1/2} 8 emags¹ MAdI ch^{1/2} s^{1/2} rb^{1/2} énsM gEdI km^{1/2} r^{1/2} m^{1/2} k^{1/2} GacRtUTTV rg el BI m^{1/2} yéf^{1/2} man 8 emag. karTTV rgenH¹ GacCakarTTV rgB^{1/2} sM gbn^{1/2} CabCa¹ h¹ Ehr b^{1/2} B^{1/2} sM gQb; m^{1/2} yry³². k^{1/2} g^{1/2} karKNnaGB^{1/2} karTTV rg Rokars¹ ManRtU¹ b^{1/2} s^{1/2} rb^{1/2} karTTV rgsM gBRk^{1/2} b^{1/2} Epik¹ T¹ g¹ S; edm, Bhitü [eX¹ l¹ j fa karTTV rgenH¹ inel sBI 85 dBA.

etl85 dBA eRbobeFobCamkysm gFmptaraL, 2efNandtempkxH²³?

pl bHBal eTAel I karshbrbsmnusS	kltsLg Ca dB(A)		RbPBSm g
bgamrbyS kltxS;	140		mashynphat
	130		mashvayelV
bgamrbyS	120		rNarvil
	90		rfynkAlj g
hanPy	80		rfynlt
hanPytict	70		karshba
	30		karxSto

²³ taragenHdkRsgecj BesovePAbNpNpl sBisutPAb sxB nig I kxNBarga e)dBmpSayrnhKedayRkmRokSasutPAbkarga nigGgkar ILO (1987)

et hant dā Cat is Mb, sM genAkEngE Fka Edr beT?

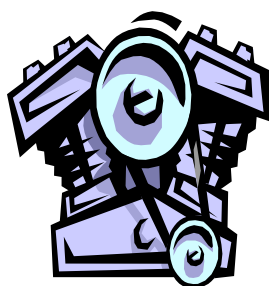
Rb karel x 138 Ec gfa³

- neyaCkRtUkMkmeFüa) aykatbnfysM genAkEngE Fka [enAkMTab tanEdI Gac GnutheTA) an edm, FanafasMtsitenAkükmlyEdI mineFU[Gn paysuPaBrbskmkr ehlyCaBess karstbrbsBkek.
- neyaCkRtUpp GaTPaBcbawFpI itNaEdI begit [mankMtsM gTab EdI bnfykMtsM genArtgRbPBénTBsMar³ dak; [enAdacBkNUTBsMar³EdI begit [mansM gxs; bnfyckMkmkrEdI eFkarenAk, r ecosvagbMaykMtsM gBepkmyénkEngE Fka eTA EpkmyeTot erobcMargarayagNa[manclayqnybMtrvagBkmkr nigRbPBsM g. erobcMEngE Fkaedayel yagNa[katbnfysM gx½
- kMtsM gRbcaFq bkMtsM gmFümEdI kmkrTTY rgküeBI eFkargarbsBkek min RtU[el tsBI85 dBA.
- kükrNcaMc; nigRkbeBI TayGs; neyaCkRtUpp ;[kmkrMrodabkarBarbKA ehly Fana()anfa RodabkarBarbKA RtU)aneKebR)as; kal NasM gminRtU)aneKkatbnfy tambeckeTs [enAkkan 85 dBA.

vFTbsát, sM g³

- sM genAkEngE FkRtUTbsát) antanneFüa) ayblyag³
- enArtgRbPBénsM g
 - tampluvagRbPBsM g nigkmkr ehlycgeRkaybgš;
 - enAngkmkrEtmj -emll rüxageRkam!.

rüTI7³



RbPB



tampü



kmkr

Carlyt \$a\$ s\$ f\$ b\$ s\$ a\$ t\$; Ta\$ G\$ s\$ e\$ n\$ H\$ K\$ W\$ M\$ o\$ b\$ B\$ a\$ E\$ p\$ k\$ s\$ u\$ t\$ P\$ a\$ B\$ n\$ i\$ g\$ s\$ u\$ P\$ a\$ B\$. v\$ F\$ l\$ a\$ s\$ f\$ e\$ d\$ l\$ m\$ a\$ n\$ R\$ o\$ s\$ i\$ t\$ P\$ a\$ B\$ b\$ l\$ i\$ t\$ K\$ W\$ o\$ s\$ a\$ t\$ h\$ a\$ n\$ P\$ y\$ e\$ n\$ A\$ r\$ t\$ g\$ R\$ o\$ P\$ B\$ E\$ t\$ m\$ j\$. b\$ e\$ n\$ i\$ c\$ k\$ a\$ r\$ R\$ t\$ U\$ k\$ a\$ r\$ C\$ m\$ a\$ y\$ G\$ s\$ R\$)\$ a\$ k\$ e\$ r\$ c\$ h\$ e\$ h\$ y\$ n\$ g\$ C\$ a\$ n\$ y\$ l\$ T\$ P\$ a\$ B\$ r\$ k\$ R\$)\$ a\$ k\$ k\$ l\$ i\$ t\$)\$ a\$ n\$ E\$ d\$ l\$ R\$ t\$ U\$ k\$ a\$ t\$; [e\$ n\$ A\$ s\$ l\$; t\$ i\$ c\$ b\$ l\$ i\$ t\$ e\$ n\$ A\$ e\$ l\$ T\$ p\$ S\$ a\$ B\$ P\$ B\$ e\$ l\$ a\$ k\$ e\$ n\$ a\$ l\$ e\$ f\$ A\$ E\$ k\$ n\$ i\$ g\$ n\$ a\$ y\$ k\$ e\$ r\$ a\$ g\$ c\$ R\$ k\$ m\$ i\$ n\$ c\$ g\$ c\$ m\$ a\$ y\$ R\$)\$ a\$ k\$ k\$ i\$ g\$ E\$ p\$ k\$ e\$ n\$ H\$ e\$ T\$. m\$ e\$ F\$ u\$ a\$)\$ a\$ y\$ m\$ a\$ n\$ R\$ o\$ s\$ i\$ t\$ P\$ a\$ B\$ t\$ i\$ c\$ b\$ l\$ i\$ t\$ b\$ e\$ n\$ i\$ g\$ s\$ e\$ f\$ o\$ f\$ a\$ k\$ b\$ l\$ i\$ t\$ K\$ u\$ p\$ a\$ t\$ e\$ T\$ a\$ e\$ l\$ k\$ m\$ k\$ r\$ e\$ d\$ a\$ y\$ [B\$ k\$ e\$ k\$ B\$ a\$ k\$ R\$ o\$ d\$ a\$ b\$ o\$ k\$ a\$ r\$ B\$ a\$ b\$ k\$ A\$ x\$ h\$? . c\$ t\$ B\$ n\$ i\$ t\$ u\$ e\$ m\$ i\$ l\$ v\$ F\$ k\$ h\$?\$ k\$ i\$ g\$ c\$ t\$ N\$ a\$ m\$ v\$ F\$ I\$ t\$ b\$ s\$ a\$ t\$; T\$ a\$ j\$ e\$ n\$ H\$ e\$ d\$ a\$ y\$ B\$ i\$ s\$ t\$ r\$ ³

k>karkatbn&ysM gBRoPBrsya

Cakar l \$o\$ e\$ s\$ t\$ m\$ a\$ s\$ h\$ e\$ n\$ A\$ k\$ i\$ g\$ e\$ r\$ a\$ g\$ c\$ R\$ k\$ T\$ a\$ j\$ G\$ s\$ R\$ t\$ U\$ G\$ n\$ a\$ l\$ a\$ n\$ t\$ a\$ n\$ s\$ i\$ g\$ d\$ a\$ r\$ C\$ a\$ t\$ i\$ n\$ i\$ g\$ G\$ n\$ p\$ C\$ a\$ t\$ i\$ n\$ i\$ g\$ m\$ i\$ n\$ b\$ e\$ B\$ a\$ j\$ k\$ m\$ i\$ t\$ s\$ M\$ g\$ r\$ M\$ a\$ n\$ e\$ G\$ a\$ y\$ e\$ l\$ l\$ s\$ B\$ l\$ ^{85 dBA} B\$ R\$ o\$ P\$ B\$ r\$ s\$ y\$ a\$. E\$ t\$ C\$ a\$ G\$ k\$ e\$ s\$ l\$ m\$ a\$ s\$ h\$ C\$ a\$ e\$ r\$ c\$ h\$ e\$ s\$; t\$ i\$ l\$ l\$ e\$ G\$ a\$ y\$ m\$ a\$ n\$ k\$ a\$ r\$ p\$ l\$; e\$ s\$ v\$ a\$ k\$ m\$ p\$ a\$ r\$ b\$ o\$ c\$ a\$ l\$ e\$ h\$ y\$ K\$ Y\$ e\$ t\$ b\$ e\$ c\$ j\$ e\$ b\$ G\$ a\$ c\$. e\$ n\$ A\$ T\$ b\$ G\$ W\$ b\$ n\$ i\$ g\$ G\$ a\$ e\$ m\$ r\$ i\$ c\$ x\$ a\$ g\$ e\$ C\$ h\$ m\$ a\$ s\$ h\$ E\$ d\$ l\$ E\$ l\$ g\$ R\$ t\$ U\$ t\$ a\$ n\$ s\$ i\$ g\$ d\$ a\$ r\$ C\$ a\$ t\$ R\$ t\$ U\$ e\$ t\$ b\$ e\$ c\$ j\$ e\$ h\$ y\$ C\$ h\$ i\$ s\$ e\$ d\$ a\$ y\$ m\$ a\$ s\$ h\$ f\$ e\$ d\$ l\$ G\$ a\$ c\$ F\$ a\$ n\$ a\$)\$ a\$ n\$ f\$ a\$ k\$ i\$ t\$ e\$ n\$ s\$ M\$ g\$ r\$ M\$ a\$ n\$ E\$ d\$ l\$ v\$ a\$ b\$ e\$ B\$ a\$ j\$ s\$ i\$ t\$ e\$ n\$ A\$ e\$ r\$ k\$ a\$ n\$ ^{85 dBA} n\$ i\$ g\$ b\$ l\$ a\$ k\$ e\$ d\$ a\$ y\$]\$ b\$ k\$ r\$ N\$ s\$ u\$ t\$ P\$ a\$ B\$ e\$ p\$ S\$ g\$ ²\$ e\$ T\$ o\$ t\$ p\$ g\$. K\$ l\$ e\$ G\$ a\$ y\$ s\$ e\$ g\$ k\$ c\$ t\$ B\$ a\$ k\$ m\$ k\$ r\$ C\$ a\$ e\$ r\$ c\$ h\$ e\$ n\$ A\$ k\$ i\$ g\$ t\$ i\$ l\$ i\$ n\$; m\$ a\$ s\$ h\$ E\$ d\$ l\$ e\$ K\$ E\$ l\$ g\$ e\$ b\$ o\$ l\$ t\$ a\$ j\$ e\$ n\$ i\$ t\$ R\$ t\$ U\$)\$ a\$ n\$ l\$ k\$ b\$ n\$ p\$ k\$ k\$ i\$ g\$ R\$ o\$ e\$ t\$ s\$ k\$ B\$ i\$ g\$ G\$ P\$ i\$ D\$ a\$ n\$ n\$ a\$ n\$ a\$. e\$ d\$ a\$ y\$ e\$ h\$ t\$ u\$ p\$ l\$ e\$ n\$ H\$ m\$ a\$ n\$ y\$ n\$ p\$ a\$ r\$ C\$ a\$ e\$ r\$ c\$ h\$ E\$ d\$ l\$ G\$ a\$ c\$ y\$ k\$ m\$ k\$ e\$ R\$ o\$ R\$)\$ a\$ s\$ e\$ d\$ i\$ n\$, R\$ k\$ b\$ R\$ k\$ g\$ / k\$ a\$ t\$ b\$ n\$ i\$ y\$ k\$ m\$ i\$ t\$ s\$ M\$ g\$ E\$ d\$ l\$ e\$ c\$ j\$ B\$ R\$ o\$ P\$ B\$ r\$ s\$ y\$ a\$. y\$ n\$ p\$ a\$ r\$ T\$ a\$ j\$ e\$ n\$ a\$ t\$ i\$ l\$ i\$ m\$ a\$ n\$ ³

- T\$ i\$ j\$ m\$ a\$ s\$ h\$ E\$ d\$ l\$ m\$ i\$ n\$ s\$ U\$ l\$ W\$ M\$ g
- e\$ R\$ o\$ R\$)\$ a\$ s\$ b\$ n\$ b\$ X\$ a\$ l\$ s\$ M\$ g\$ h\$ i\$ n\$ B\$ T\$ m\$ a\$ s\$ h\$ T\$ a\$ j\$ m\$ l\$ b\$ e\$ p\$ k\$ N\$ a\$ e\$ d\$ l\$ b\$ g\$ a\$ e\$ G\$ a\$ y\$ m\$ a\$ n\$ s\$ M\$ g\$ r\$ M\$ a\$ n\$. R\$ t\$ U\$ c\$ g\$ c\$ a\$ l\$ l\$ a\$ E\$ p\$ k\$ e\$ n\$ b\$ n\$ b\$ m\$ i\$ n\$ R\$ t\$ U\$ e\$ G\$ a\$ y\$ b\$ H\$ C\$ a\$ n\$ y\$ n\$ i\$ g\$ m\$ a\$ s\$ h\$ e\$ L\$ y\$ e\$ B\$ a\$ h\$ v\$ a\$ n\$ g\$ b\$ e\$ B\$ a\$ j\$ s\$ M\$ g\$ e\$ T\$ A\$ x\$ a\$ g\$ e\$ R\$ k\$ A\$. c\$ h\$ i\$ n\$ R\$ o\$ e\$ h\$ a\$ g\$ e\$ n\$ b\$ n\$ b\$ R\$ t\$ U\$ m\$ a\$ n\$ t\$ i\$ c\$ b\$ l\$ i\$ t\$ -d\$ t\$ C\$ a\$ c\$ h\$ i\$ t\$ e\$ c\$ j\$ c\$ U\$ m\$ i\$ x\$ S\$ e\$ P\$ h\$ b\$ B\$ i\$ g\$; . l\$. ; e\$ h\$ y\$ R\$ t\$ U\$ d\$ a\$ k\$; r\$ g\$ e\$ k\$ A\$ s\$ t\$ h\$ A\$ k\$ E\$ n\$ g\$ E\$ d\$ l\$ G\$ a\$ c\$ d\$ a\$ k\$)\$ a\$ n\$.
- p\$ l\$ e\$ s\$ v\$ a\$ k\$ m\$ p\$ i\$ g\$ k\$ a\$ r\$ E\$ f\$ T\$ a\$ m\$ a\$ s\$ h\$ C\$ a\$ r\$ b\$ o\$ c\$ a\$ l\$ l\$
- p\$ a\$ s\$ b\$ e\$ p\$ k\$ E\$ d\$ l\$ s\$ k\$ r\$ i\$ l\$ b\$ e\$ d\$ l\$ x\$ t\$ x\$ a\$ t\$
- k\$ a\$ t\$ b\$ n\$ i\$ y\$ r\$ i\$ l\$ i\$ t\$ b\$ s\$ e\$ p\$ k\$ n\$ a\$ n\$ a\$ n\$ i\$ g\$ K\$ i\$ m\$ b\$ r\$ b\$ s\$ m\$ a\$ s\$ h\$. F\$ a\$ n\$ a\$ f\$ a\$ m\$ a\$ s\$ h\$ R\$ t\$ U\$)\$ a\$ n\$ t\$ M\$ l\$ i\$ g\$ R\$ t\$ m\$ R\$ t\$ U\$ t\$ a\$ n\$ l\$ k\$ N\$ ³\$ b\$ e\$ c\$ e\$ t\$ s\$ n\$ i\$ g\$ d\$ a\$ k\$ B\$ e\$ l\$ k\$ m\$ l\$ C\$ 1/2\$ b\$ e\$ l\$ l\$ s\$ M\$ a\$ ³\$ E\$ d\$ l\$ m\$ i\$ n\$ s\$ U\$ j\$ i\$ s\$ e\$ t\$ e\$ T\$ o\$ t\$ n\$ i\$ g\$ F\$ a\$ n\$ a\$ f\$ a\$ R\$ k\$ b\$; b\$ U\$ l\$ i\$ g\$ T\$ a\$ j\$ G\$ s\$ R\$ t\$ U\$)\$ a\$ n\$ m\$ l\$ C\$ a\$ b\$ m\$ a\$ l\$ l\$

- pæs b[e]p kEd I eFBel ah³ edays Mar³epSg²Ed I GacRsbYksM g d[Ca]as e b[e]F[et]
Fn;ngsM gCaedM
- daks bkkkjrn b[e]Baf³sM g nigEgrTisvæc j BkEngeFkarga .

sM grManEd I ekitec j BkaEckcays Mar³GacRtU) ankatbnYedayvFBchYagdbCa³

- katbnYk[is];T[ak];T[hij] 1/4aksM I RtURomU dakkjFgskM . RtUFanafaRbGb; nigFg
TajenHmanPaBngmadhlyp I itBisMar³Rsb[sM] g d[Ca]as e b[e]F[et].
- Fanafaral c[hor] ExSBan . I . sU[st]RtU) anpl itec j BisMar³Rsb[sM] g d[Ca]²KatayGs;
- katbnYeI ,OnenRbB[ex]SBan .
- eR[as]ExSBanCaCagkgeyag .

x>karKbKgsM grMankj I Hrvagkmkr nigRbPBsM g

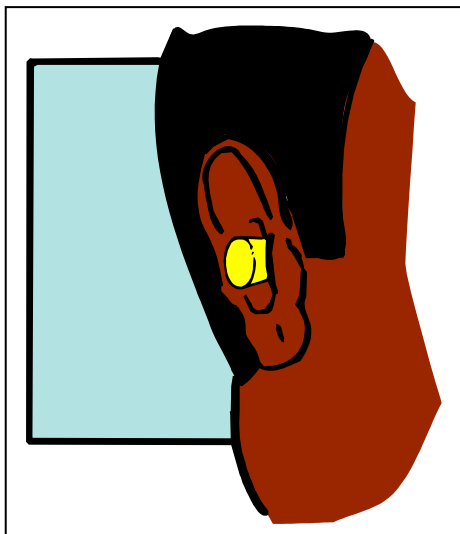
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edm,bFVeGaykarsayPayenr I ksM gTUageragcRkFokd I k[il]Gb,brima . r I ksM geF[et]Nrkj
xul d[tr] I k Rbed j el I k[il]B I Gkecal d[il]KsenAkjRtB[il]k - r I ksayPayBRbPB . edayeh tenh
ehlyvFisa³fd I GacRbedm,bBa[il]karsayPay b[il]s[il]r I ksM gGackatbnY bBa[sM] grMan
edaysutPaB . vFisa³TajenHman³

- eR[as]sMar³Rsb[sM] gdakenAtamCB[il]kM bBidan ebGaceF[et]A)an .
- tM lyeGRkgRsb[sM] genAcendHvagRbPBsM g nigkmkr .
- B[il]bnRsb[sM] gec j BBidan edm,I {cabyk} r I ksM gmYchM nigkatbnYk[il]
sM grManTajmU .
- sagsgkEngmineGaysM gcl)an nigbn[il]kay .
- ebman I TPaB begHry³clayrvagkmkr nigRbPBsM g .

K>karKbKgsM grManeKEngkmkr

TiNgén {karKbKgs} sM grManEdI ekniymeRbCageKKWareRbR)as:]bkrNkarBarpæl xü EdI man RTgRTayCa]bkrNkarBaresatvBaN. vabMkargarel BKal karNkarBar edm,kMGayrI ksM g cU dI EpkrMj ackjRtecok. CamU daeRbdabkarBarRtecokman 2RbePTKW Rbdabj k nigRbdab; eRsabRtecok -sbhemll rüPaBTI8;

rüPaBTI8 - RbePTRbdabkarBarRtecok



Rbdabj k



RbdabeRsab

eKBakqkRtecoken/EpikxagkjénRtecok ehlyqkTablenaRtUpI itBlsMar³epSg²rihman C½ sMEdI Gac cakBm)an)asE bBlsMar³epSg²EdI GacdakcUkRtecok -sbhemll rüPaBTI 29; . qkRtecokCaRbePT RbdabkarBaresatvBaNEdI minKVeGaycg)anCageK edaysarbBaRbsifPaB nigGnamy. dacxatkM kmkreRbR)as,sMmanerandakcU kjRtecokCMSeGayRbdabj kRtecok - eBaEpikénsMlnahmycmh ngesssI kjRtecokeBEdI ekdksMlj kenatecj vij ehlyGacbgá eGayekltmanCbRtecok.

eyagtamTsSn³EpksxPaB nigsutPaB RbdabeRsabRtecokmanRbsifPaBCagRbdabj k Rtecok RbsinebvaRtU)anBakyagRtmRtU. RbdabeRsabRtecokRtURKbel RtecokTajmU -minsgat; Tg RtecokeGaybhngk,al ; nigTbsatrI ksM gmineGaycU kjRtecok. kmkrEdI manBkcgár bBak;EvntamankarI yak kjkarBakvaeGayeRsabCitCMj Rtecok.



rüPaBTI 29 — shtenll rüPaBedayRogRoyYñ kmpkrEdI enAxagsPakRodabj kRtecok Et kmpkrxageqymin)anBakeT. pñyeTAvij kmpkrxageqyBakmaskarBarFU I Et kmpkrxagsPñ. etmanbBašM g rMan bəBaFU lbkTayBI?

eTahCaRbRoePTkarBarRtecokGikəday mancNlucCaRchEdI RtUcgcaM

- bBašM grManenAtekitmaneLj — vaninRtU)ankatbnRyeLly
- enAkñI kxPñkñ ehlyesh EdI EtgekltmanenAkñgeragRkkm&CaRch kmpkrPaKeRch yI ;eXlj fakarBakRodabkarBarpal xñminmanPaBgayRsV enahET
- kmpkrminGacTñk;TñgKədayRsV RoshnebBkekBakRodabkarBarRtecok EdI GacCa bBañenARKamanGasnñ.
- Rodabj kRtecok nigRodabeRsabRtecokRtUmankareFltsPGay)anhñt;ct; mneBI eRbl R)as;nigmankarsMat CVSCU nigpəsbPcaRbcam

- kmkrRtUeTTV karbNpNpl BkareR)asRbdokarBarsutPppl xüeGay)anRtm RtU .

X> rjl 1/2 rhp. SllamYngsM grMan

mashCaerchenAkgeragcRkkatedrRtU)antM lgyisbeckeTs b#MeGaymankarCisCul EfTAM Cahtu bNpl eGay j 1/2 nigbgaeGaymanbBašM grMan. eBl Edl j 1/2 mashTalenabBašrjl 1/2 rbsvaeTA kankmkr. EpikénsarBagkayEdl rgkarbBal CaepkEdl Tak;TgCamYngmash. rjl 1/2 TalenH GacbNpl eGayQWkacbsacdMsnk; nigCaBess sésQan.]TahrN^{3/4}kmkrEdl éd nigRmanéd rbsxübBal CamYngmashGacQWabBCgMüagehAfa Vibration White Finger. dNarRsayCabzmKrtUkatbnRyrl 1/2 Edl ecj Bmash.

4>6 bBaRtV BinitüsM bBašM grMan

)at	eT	skmPpB RtUGnutp
etragcRk)anRtbtltambTbBaCat isPšM grManEdrbet?			
etEpikrbsmashEdl bgaeGaymansM grManRtU)aneKhmCitEdrbet?			
etmashRtU)anCisCul nigEfTadAeTogTatEdrbet?			
etmanekal neya)ayCMšmashucas; nigmansM grManedaymashEdl minsUl šM gEdrbet?			
etmashRtU)aneKtM lgyagRtmRtUedM, kM Gay j 1/2 nigkatbnRy kM én sM grManEdrbet?			
etljbkrNšššM gRtU)aneKdakenAtamBidan CBašj nigkRmal Edrbet?			
etmanr)abKbRkanedM, karBarsM grMan mineGayral dal CMš kEng eFikarEdrbet?			
etmnsSeFikarenAkj kEngminsUl šM grbseragcRk RtU)anbeBašBI RbPšM grManEdrbet?			

et kmpkreFKarenAkjEngmansM grManRtU)aneKqasedm, Gay kar TTV rgnngsM grManrbsBkeKGackatbnRytamry ³ evl aEdrbeT?			
et kmpkrRtU)anpl eGaynlEbbEpnénkarkaBarEpkSp;I bptEdrbeT?			
etRdabeSsabRtecok nigqkRtecokRtU)aneKsMatEfTdl bEmsyag eTogTateBI EdI ca)acEdrbeT?			
et kmpkrTTV)ankarbergonBrebobeR)asRdabeSsabRtecok bekr RtecokEdrbeT?			

4.7 karb

BtmanTETA

tankaryl dgrbskmkr BnMceBkenAKEngEFlkarGacbNpl eGaypSarEPk I tEl ðQW,al tantg kğGarmN³/₄ngeKalfak: müagvij eTot BnMceBkkZacbNpl eGaymanekalfakdl s_xPaB nig sutPaBEdr dðCa{cajEPk} QW,al nigtantgkğGarmN³/₄bBaTajBrenHGacbNpl eGay ekltman kltisqğenAKEngEFlkar KNPABGn; nigpl itPaBTab. karSkSaCæRch)anENnaBnM I smRsb enAkğkEngEFlkar pl pl RoeyaCnZæRchddCakarbeghapl itPaB nigkatbnlykltisqğ²⁴. kareFV eGaymanPaB I RoeshxagEpikBnMInEmncayacfa GkrRtUkarGBU Efmed I naBGaymankar eR)as; famBI GKIsnekheLgenatET. vaCakrNEd I GkrRtUeR)asGBU Ed I manRsabeGay kanEtman RoeyaCn³/₄ eFGayR)akdfaGBU TajGsRtU)ansMat nigstkg I k_xPaB Roesh ehly GBU TajGsRtU)andakyagRtmRtUsk_kicRanimy². vakZakrNEd I RtUeR)asBnMfati eGayGsBII TPAB pgEdr. .

eragcRkkatedrPaKechmanarpSMavagBnMfati nigBnMbb,nimit. eTalyagNakaday briyakas enAkğkEngEFlkarRtU)aneKykcitFkdakyagtçtç. vahakbbCaKbkargaTajGsenAkğeragcRk RtUkarKltEnBnM²KatTajGs;. enHCakarmYminRtmRtUeT ddEd I eybngexij Cabnntb;



rðPaBTI30 nig 31 bgğj
BkarbMhAkğeragcRkkatedr



²⁴ enAkğesovePArbsGgkarBI kmGnpCati el kstj/ I k_xPaBarga nigpl itPaBkğj/s_xhkmaynPA₁145 hja el kelLgfakarskSatajenHGagfa karbMh I Roesh eFGaypl itPaBekhelg 10° nigkatbnlykltisqğ 30°.

eybnaKkL kemll bBaBn²Ed I Etgeklit manenAkügeragcRk³

kgklatBn²imGatingBn²b, nimp²enAkügeragcRk

eTalbCaeyb)anbriyayBkagedmG²it²kkarebR)asbg²Ed I p²l mb; edm, katbnRy²k²MA enA
kügeragcRkyagNak²day k²AEtcaNaceF²GayR)akdfabg² kBa²eGayBn²U t²andb²U TayGs; . I .
Rt²U)ansMat nigdak; tamT²at²l b²pt²edm, eGayBn²imGatG²tbrmac²U d I kEngeF²kar. Rkmhb
TayLay EtgEtGaceRbR)asrebobTTV mbEd I smrmünanaedm, katbnRy²k²MA sitN²PaB. BkeKmin
KVGarsy² el bg²Ükxk²enaleLy. kBa²eGayBn²U t²andb²U nigbg²Ed I enAx²s; tamCB²at²
eragcRkGaceGay Bn²imG²xül ; c²U eRchCagbg²ÜTab²Ed I Caerly²Rt²U)ayngs²vt²at²edm . I .

dbKienHedr G²U -nigc²Mat²pat; TayGs²enAkügeragcRkK²V²Rt²U)anE²T²al nigs²Mat²eGay
)aneTogTat; CaBessenAeB I Ed I GkKit²faet²FU bn²nehlyhyc²U kübriyakask²U²ge²Nnimy²;
-shemll r²PaBTI32 nig 33; .



r²PaBTI32 nig 33

shemll FU InigsésB²gBagtamG²U h²lyGr.
c²Mat²G²U manR²sTab; I MgFU enAC²ij TayGs;
c, as/ NasEd I faG²U minRt²U)aneK²sMat²y²
Nasmkehly . enAt²aneragcRkx²U km²kre²ol
G²U)aséd²lvgedm, s²Mat G²U nigb²lgxül ; dt
Ed I eybng²eX²ij v²F²sMat²enHGacbeg²l²bBa²
s²xPaBC²ar²chd²TeTot .

edn, katbnrycmayefedn enAeBl man
 karbBaTij tē. cBakarbM/GBU ePj {minsMan} RbEhI CaRTU) anykecj bkatbnrycmh
 edayELkGBU hlyGrPbEPaEdI RtUpasEbrCaRTU) anbnSI ;TkeTAvij . enHseGayeXlj Bkar
 sMxns eBaKNPaB nig pl itPaBfakch.

vFmlyEdI samBa0 edn, bFkanEtRbesnukMitēnBnMgeragcRkKW RtU abfa0Ba0Camly
 ngBNEdI Rsal RSEI t minca0EPk. kareRbFāll abminca0EPkGaceCosvag)annUcNā0BnMl
 GacbgāeGay manBa0dI EPk. BNrbs, Ma³ddCamashedr ekAGSMBefikargar . I . CaFmpta
 KVETSkāngBN' rbsCBa0j ehlyeCosvagI abfa0dI ca0EPkBNexā. edaykareFVGaykEngēfikar
 manPaBRss,fa vaCybegitkEngmlyEdI kveGaycgefikar ehlyEdI man\T0I dI, sūmal PaB
 rbskmkr nigcg ekaybMtdI pl itPaB.

EstyrkTitā0I Mit sM0RbPBBnW

hakb0d0Caer0gsamBa0 bEnBnMkRaEdI k0geFV nigminc0Pikkmkr edaypal ; bedayRbeyal Ca
 er0gEdI sMan; kicRarkanEtI Mit RtUkarBnWanEteRchedn, bGaykmkrGacbbj kargarbSBkeK
 RokbedayRbsitPaB. -sthemll r0PaBTI34 nig 35!



r0PaBTI34 nig 35
 enAkgr0PaBTā0BrenH karbM/nans³
 sMan; sM0karb0j kicRaEdI RtUeFV
 ct0gca0akarbM0pxagk0sMomasb
 edr ca0cM0RaminEmnc0Pikkmkr eLy.
 vā0ManEdr EdI Rseml rbsGkmin)ā0
 kicRaEdI RtUeFV

Cakarca)ncRtUdakGBU ePhenAtanTitadlyagRtmRtU EdI naGaykmpkrminca)ncgakctlgak eLgedm,leXij kicRaEdI ekKBlgeFV vaCaerOgsManpgEdr EdI RtUmanBnIKbRkanCitkEngEdI Gac maneKalfiknanaGayfahtddCa tamCeNp Rckptj .I. nigenAerKAragcRksMbsutPaB eBl yb;

beBasCMAjBnW

eTahCamankitBnIKbRkanenAkgeragcRkTajmU keday cMAjEdI ecj BRbPBBnWlaypal ; bpat ecj BSMar³ becj BepEdI rel agGacbNpl eGayekitmanPaBminRSV pSarEPk nigI itel Gs; kMAj. CMAjGsenHCaktpeghikmsqj katbnRyKINPaB nigI itPaB. cMAjBnW)anek BBNhafaCa {BnWAxiskEng} ehlyEckecj CabRoePTepSg²Kp

- cMAjBnW I bgaeGaymanPaBBka³ GaceFtGayRsvajEPk nigbgakckuBaN EdI GacCa mlU eh tmlyeneKalfik;TajLay. vakiteLgedaysarmanBnW eTAKjEPkedaypal xaj ebk.
- cMAjBnW I bgaeGaymanPaBminsURSV³ ekhekitmanenAkjstnPaBkargamana. vaGac bNpl eGaymanPaBminsURSV pSarEPk nigI itel GskMAj CaBesskugry³eBl yb. va bNpl mkBkarsLgedaypal cMBPB nigepkageRkayenBnW I PMAj. nig
- cMAjBnW I pat³ CaBnW I patecj Bepel agcU eTAKjckuBaN.

manvFCaerchEdI GkGaceR)asedm,leCosvag bkatbnRycMAjBnW)AkjEngEFlka³

edm,katbnRycMAjBnW)j Bbgj³

- eRbnaj valnn sabRil b)aj
- CMskBakFedayvtBdI RsGab1/4 k; I abBNkBaRngk)ars
- pasbpkartoEtgkjEngEFlka

edm,katbnRycMAjBnW)j BGMU³

- FanafaknGBU I at NasRtenAcBmzkmkkr
- dakGBU eGayxsEtminkatbnRy)kMAjTtAenkarbMAj

- eRb) a) bEx I EtRtUF anafakEngEFlkargarmanBnM¥

edm, katbnRycMajBnM I pat³

- pasbPITatjbsRbPBBnMigkatbnRyPaBPWbSya
- RKbépEd I catjedayvtEd I minrel agRsGab;
- pasbPkarthEtgkjkEngEFlkar

etBnM U) aneKvasEvgagdbemp?

kMénBnM U) anvasEvgCa LUX edayerb] bkrN^{3/4} MbyasBnM CaGks I maneragcRk bPakgar RtVBhüBI kmptcE NasEd I man] bkrN^{3/4} ZdenH. taragxagerkambgëj BkM BnMam EbbxH²³

enAeBI éf] anBnMBHGaTüxaj-ekpaj;	rhMdl ; 100 000 lux
eBI emXRSTM	30 000 - 40 000 lux
eBI RbI b;	1 000 lux
bnbmbenAeBI éf]	100 lux

etmanbTdaénBnM rbeT?

eTahbCaRbeTskm&BmanbTda I QitsM bNMeday kaneKal karNEANnaMATA CaRch Ed I Gacyk mkeFCaÉksareyag)an. eKal karNEANnaMdenHpl nuGnsasneM eM BnM I KVET maneTAtam RbePTkargar]TahrN^{3/4}

kargarenAkjgeragCagmash³

- kargarminsUsKspj nigkartM b]pM 300 lux
- kargarmFümel mash nigel Itkargar 500 lux
- kargar I Qit enAel mash nigel Itkargar 1 000 lux

kargarkariyal ½ benAkügeragcRkkat,edr³

- kargaTÖTA 500 lux
- kargaI Mit 750 lux
- kargaI Mitxs; 1 000 lux

4>8 bBartYBnitüsMbBnW

	at cas	et	skmPAB RtUGnutp
etmankarbMUTAI best -edayKancMajBnW enAkügeragcRkTajmU Edrbet?			
etGBU nigbgÜTajLayRtU)ansMat nigEftaDæTogTatEdrbet?			
enAkEngEdI caMac; etbgÜ nigkBaReGayBnWU tandMÜ TajGsRtU)an I abngkÜ)ars byajedlm,ECosvagMajBnWEdrbet?			
etmanBnWagkÜsMokicRkEdI RtUsMngCitedlm,katbnBykarpSarEPk nigkarI itél CskMajEdrbet?			
etGBU PbEPaRtU)anCmsPan ² Edrbet?			
etCBadU nigBdanRtU)anI abfäNRSal nigEftaDæGayenAsitEdrbet?			
etnARKbkEngTajGsmanBnWkasPaBGasnEdrbet?			
etItInxageRkARtU)anbMokicRk nigsutPaBecj cU eBI ybEdrbet?			

escklsqg³

- 1>ePbR)aseGay)aneBjel j nUBnWfRügeragcRk
- 2>eCIsersépEBadU Bidan . I . eGay)ansmrmü
- 3>kTitajEdI I bntsmokakRoPBnWlm,beBasCMAjBnW I .
- 4>ePbR)as;]bkrNzAmobMGay)ansmrmü
- 5>beBasRsemal
- 6>FanaGay)anc,asfamanarksMat nigEftaDæRocall