HfUbg]Ybh: `ck `FUhY`A YUgi fYa Ybh'VmA YUbg`cZl `lfUgcb]WDi `gYX` 8 cdd`Yf`A Yh\ cX`

Þ[¦ā`\ákð'¦`&&@EÉÜaa)^@a[ÁYæaåæEÉ£aa)åÄYæe`•@áVæà^åæ%ÁÁ

^GŠæà[¦æā[¦ʿÁ[¦Á2[[åÁÜ^∙^æ}&@Á0}*ā]^^¦ā]*ÉÀÙjã•Á2^å^¦æ}Á0,•ããč c^Á[-Á/^&@][|[*^ÁZ`¦&&@ÁZ`¦&&@Á €JŒÁ Ùjãc ^¦|æ}åÁ

Vj ku"r cr gt"tgr qtvu" y g"kpxguki cvkqpu"qh" y g"vcpukgpv"hqy "tcvg"qh" y g"ugxgtcri'hqy "o gygtu"cpf "y g" wntcuqpke" hqy o gygt"dcugf "qp" y g"r wngf "F qr r gt" o gyj qf 0'Vj g"tglgtgpeg"hqy "tcvg"ku"i kxgp"d{ "y g"i tcxko gytk" o gyj qf " y j kej "ku"pgy n{"guvcdrkuj gf "kp"P O K0'Vj g"hqy "tcvg"ctg"kpxguki cvgf "hqt"r wncvkqp"hqy "y kj "20" J | " htgs wgpe{0'Vj g"hwewcvkqpu"qh"hqy "tcvg"d{ "wntcuqpke"r wngf "F qr r gt"o gyj qf "cpf "Eqtkqrku"hqy o gygt"ctg"ci tggf y gn"gcej "qy gt"cpf "y kj "y g"tglgtgpeg"hqy "tcvg0'Vj g"kphwgpeg"qh"y g"hwewcvkqp"qh"hqy "tcvg"ku"i ugu" y i "hqt" y gn"gcej "qy gt"cpf "y kj "y g"tglgtgpeg"hqy "tcvg0'Vj g"kphwgpeg"qh"y g"hwewcvkqp"qh"hqy "tcvg"ku"gu" y "hqt" y gr wngf "F qr r gt" o gyj qf 0'Vj g"tguwn/"i kxgu"pgy "cf xcpvci g."y j kej "ku"j ki j "tgur qpug"hqt"ytcpukgpv"hqy ."hqt"y g" wntcuqpke"hqy o gygt"dcugf "qp"y g"r wngf "F qr r gt"o gyj qf 0"

? Ynk cfXg. "Hnyy "tcvg. "Vtcpukgpv'hnyy. "Y gki j kpi "o gy qf. "Hny o gvgt. "Rkrg'hnyy "

%"=bhfcXiWhjcb

Hqy "tcvg" ku" qpg" qh" yj g" o quv" ko r qtvcpv" r ctco gvgtu" kp" gpi kpggtkpi "hkgnf u."uwej "cu"r qy gt"i gpgtcvkqp."ej go kecn" hqqf"cpf"uq"qp0'Ocp{"v{rgu"qh"hqyogvgt"jcxg"dggp" f gxgrqr gf "f gr gpf u" qp "y g" o gcuwtgo gpv" vcti gv" cpf " ctg" wukpi "kp"gcej "hnqy "hkgnf "dgecwug" y gtg"ku"pq"hnqy o gvgt" y j kej "ku"cr r nkecdng"hqt "cp { "hqy "hkgnf 0'Gxgt { "v{r g"qh"hqy " o gvgt" j cu" dqvj " cf xcpvci g" cpf " f kucf xcpvci g0' Vj g" cf xcpvci g"qh"cp"wntcuqpke"hqy o gvgt."y j kej "ku"tgegpvn{" crrnkgf "vq"o cp{ "hny "hkgnf u."ku"i gpgtcm{ "pq"rtguuwtg"nquu" cpf "o ckpvgpcpeg"htgg0'Vj g"f kucf xcpvci g"qh'yj g"wntcuqpke" hnqy o gvgt "f gr gpf u" qp "y g "r tkpekr ng0'C "vtcpukk/vkog" wnxtcuqpke'hnqy o gvgt. 'y j kej 'ku'y g'o quv'r qr wrct 'r tkpekr ng." ku"uvtqpi n{ "kphrwgpegf "d{ "yj g"xgnqekx{ "r tqhkrg"kp"yj g"r kr g" dgecwug"y g"hqy "tcvg"ku"ecnewncvgf "htqo "c"rkpg"cxgtci gf " xgnqekv{ "dgw ggp"wnxtcuqpke"ugpuqtu0'Vj g"f kucf xcpvci g"qh" y g'wnxtcuqple "hnqy o gygt "dcugf "qp"r wnugf "F qr r ngt "o gy qf " ku"c"pgeguuks{ "qh"tghgevqt0'Vq"qdvckp"hqy tcvg"qt "xgnqeks{ " kphqto cvkqp."uvhhkekgpv"tghgevqt"ku"pgeguuct { "kp" yj g"vcti gv" hqy "hkgrf 0'J qy gxgt." y ku"hqy o gygt "ku"pqv" kphrwgpegf "d{" y g"xgnqekx{ "r tqhkrg"dgecwug"y g"r tkpekr rg"ku"dcugf "qp"y g" f ktgev'kpvgi tcvkqp"qh'kk0Vj g"wnxtcuqpke"hrqy o gvgt"dcugf "qp" yjg"rwnugf "Fqrrngt"ogyjqf "ycu"hktuwn{"rtqrqugf"d{"Oqtk" gv'cn0']3_"cpf "j cu'dggp"cr r nkgf "ugxgtcn'hnqy "hkgnf u']4_]5_0' $\label{eq:http://http$ qh'y ku'o gy qf 'j cu'dggp"guvcdrkuj gf 0"

Vj g"r tkpekr ng"qh" y g"r wngf "F qr r ngt" o gyj qf "dtkpi u" cpqyj gt" cf xcpvci g0' Vj cv' ku" j ki j " tgur qpug" hqt" vtcpukgpv" hnqy ."y j kej "ku"xgt { "ko r qt xcpv' hqt"r tqeguu"eqpvtqn0" J ki j " tgur qpug"qh"hnqy o gygt "kpuxcngf "kp"c"r tqeguu"kpg"cej kgxgu" cp" qr vko cn" o cpci go gpv" cpf " tgf wekpi " y g" uxct vwr " r tqegf vtg"cpf "uq"qp0'O qtk"gv&n']3_'tgr qtvgf "y cv'y g"hnqy " tcvg"hnwewcvkqp"o gcuvtgf "d{ "y g"r wngf "F qr r ngt"o gyj qf" ci tggf " y gm' y kj " qtkheg" hnqy o gygt0' Y kmwpf " gv" cn[]7_" tgr qtvgf " y g" f { pco ke" tgur qpug" hqt" ugxgtcn' v{r g" qh" hqy o gvgt0' Vj g{" tgr qtvgf " y cv' y g" tgur qpug" qh' y g" f khhgtgpvkcn'r tguuwtg" v{r g" hnqy " o gvgt" y cu" y g" j ki j guv0' J qy gxgt." dqyi "gzrgtko gpvu" kpxguvki cvgf "qpn{"c" tgur qpukdkrks{ "qh" gcej "hrqy o gygt" cpf "fkf "pqv" o gpykqp" cdqwl'y g"ceewtce{ "hqt"y g"o gcuwtgo gpv'qh"y g"vtcpukgpv" hqy "tcvg."kp"qy gt"y qtf."cp"kpuvcpvcpgqwu"hqy "tcvg0'Vq" mpqy "y g'ceewtce { "qh'y g'tcpukgpv'hqy "tcvg"o gcuwtgo gpv." yj g" eqo r ctkuqp" y kj " tghgtgpeg" hqy " tcvg" ku" tgs wktgf 0' Wphqtwpcvgn{." y gtg" ku" pq" tghgtgpeg" uvcpf ctf " hqt" y g" õf {pco keö"hqy "tcvg"cnj qwi j "y gtg"ctg"o cp{"tghgtgpeg" uvcpf ctf u" hqt" õuvcvkeö" hqy " tcvg" cm' qxgt" y g" y qtıf 0' J qy gxgt." qpg" vtkcn" hqt" y g" f {pco ke" hqy " tcvg" o gcuwtgo gpv'd { "o qf kh { kpi "y g'uvcvke"i tcxko gvt ke"o gy qf ." y j kej "ku'y kf gn{ "wugf "cu'y g'tghgtgpeg'uvcpf ctf "qh'y g'hqy " tcvg"o gcuwtgo gpv."j cu"dggp"f qpg"d{"Uj kpf gt"gv"cn"]8_0' Vjg{" encko gf " yj cv" yj g" uvcpf ctf " wpegtvckpv{" qh" yj g" f {pco ke"hqy "tcvg"o gcuvtgo gpv"vukpi "y g"y gki j kpi "vcpm" o gy qf "ku"20237' 0'Vj ku"tguwn/"kpf kecvgu" y cv" y ku"o gy qf " ku'r quukdng'vq'wug''cu'y g'tghgtgpeg''uvcpf ctf ''qh'y g''tcpukgpv'' hqy "tcvg0"

Ký "ý ku"r cr gt. "y g"guvcdrkuj "ý g"tghgtgpeg"uvcpf ctf "hqt" ý g" ucpukgpv"hqy "tcvg" wukpi "y gki j kpi "vcpm"o gy qf "cpf" kpxguvki cvg"ý g"tgur qpug"qh"ý g"r wugf "F qr r ngt"o gy qf "hqt" c"r wnxvkqp"hqy 0""

&"9IdYf]a YbhU`gYhid`UbX`a Yh\cX &'%9IdYf]a YbhU`UddUfUfig

Vj g"hqy "uj ggy"qh" yi ku"gzr gtko gpy"ku"uj qy p"kp"Hki (B0'Kp" yi ku"gzr gtko gpy."yj g"pcvkqpcn'uvcpf ctf "qh'uo cm'y cygt"hqy " tcw"kp"Lcr cp"]9_"y cu"wugf "y kj "uo cm'o qf kHecvkqp0'Vj ku" pcvkqpcn' uvcpf ctf " eqpukru" qh" yj g" 32" mi "y gki j kpi " vcpn" u{ uvgo "y kyj "j ki j "ceewtcvg"tqvcvkpi "f kxgtvgt0'Vj g"hqy "tcvg" tcpi g"ku"htqo "20224"o ⁵ lj "vq"304"o ⁵ lj 0'Vj g"vgo r gtcwtg"qh" y qtnkpi " hwkf " y j kej " ku" y cvgt" ku" eqpvtqngf " d{" y g" vgo r gtcwtg"eqpvtqn'wpkv"cpf "y g"uvcdkkk{ "ku"nguu"y cp"208"



Hk wtg"3</Hqy 'luj ggv'qh'gzr gtko gpvcnhcektk{ (VVj g'hcektk{ 'lu'o cpci gf "cu'iy g'pcvkqpcn'uvcpf ctf "qh'hqy 'lcvg'lp'Lcr cp()'

°E0' Vj g" hqy " tcvg" ku" i kxgp" d{" y g" uvcvle" i tcxko gvtle" o gyj qf " cpf " y g" gzr cpf gf " wpegtvckpv{" qh" y g" hqy " tcvg" o gcuwtgo gpvlu'2026' 'y ky "eqxgtci g'hcevqt" qh'40"

Ko"yi ku"gzr gtko gpv."yi g"r wncvkqp"xcrxg"cpf "yi g"j ki j " tgur qpug"y gki j kpi "cpm"ctg"cf f gf "q"yi g"qtki kocn"hcektk{0' Vj g"r wncvkqp"xcrxg"ku"f tkxgp"d{"ckt"r tgurwtg"cpf "tgr gcw" yi g" uj wv"qp/qhh"qr gtcvkqp0'Vj g"htgs wgpe{"qh" yi g" qp/qhh" qr gtcvkqp"ecp"dg"eqpvtqngf "htqo "207"J | "vq"32"J | 0'P qvg" yi cv' yi g"r wncvkqp" hrqy "ecppqv' dg" qdugtxgf "cv' yi g" vguv' ugevkqp" htqo " yi g" xgnqek{" o gcuwtgo gpv" y j gp" yi g" htgs wgpe{"ku"qxgt": "J | 0"

Vj g'j ki j 'tgur qpug'y gki j kpi 'u{ ugo 'ku'eqpukuu'qh'y g'' : " ni " vcpni' y j kej " ku'' ugv' qp" yj g'' ukpi ng" ncf " egni' Vj g'' tgur qpug'' ko g''kp''y g''ur gekhec kqp "qh''y g''ncf "egni'ku''nguu'' y cp''4'o uge0Vq'cxqkf 'yj g''kphnxgpeg''d{ 'yj g''f ktgev'uj qeni'qh'' y cvgt." r qtqwu'' dqf kgu'' y kj " f kthgtgpv' o guj " ukj g'' ctg" kpuvcngf " kp'' yj g'' vcpn0' Vj g'' hny " nkpg'' ku'' ej cpi gf " d{ " yj g'' y tgg/y c{ 'xcmg''kpuvcngf ''f qy puvtgco ''qh'yj g''y cvgt ''kp''yj g'' vcpni'ku''uj qy p''kp''Hki 0'40'Vj g''r wncvkqp''t gs vgpe{ ''ku''3''J | 0' Vj g''kpuvcpvcpgqwu''nny ''tcvg''ku''i kxgp''d{ ''yj g'' kthgtgpvkcni'qh'' y g''vko g/f gr gpf gpv'y gki j v0'Vj g''tguwnu''y kni'dg''uj qy p''kp'' Ugevkqp''50''





&"&'91 Ua]bYX'Zck a YhYfg'

Vj g"kppgt"f kco gvgt"qh"yj g"r kr g"kp"yj g"vguv"ugevkqp"ku"47" o o 0'Vj g"vguv"o gvgtu"y gtg"gngevtqo ci pgvke."Eqtkqnku"cpf" wntcuqpke"r wngf "F qr r ngt "hny o gygt." y j kej "ku"ecngf "cu" WRF H' j gtgchvgt0' Grgevtqo ci pgvke" cpf " Eqtkqrku" hrqy " o gvgtu" ctg" kpuvcmgf " kp" ugtkgu" cu" uj qy p" kp" Hki 080' Cv' f qy puvtgco "qh"y g"Eqtkqrku"hqy "o gvgt."j {f tqi gp"o ketq" dwddng" ku" i gpgtcvgf 0' Vj g" f kncpeg" dgw ggp" y g" dwddrg" i gpgtcvkqp" ugevkqp" cpf " yj g" o gcuwt go gpv" mecvkqp" d{" WRF H'ku"3422"o o 0'Cv''y g"f qy putgco "qh"WRF H"w q" y gki j kpi " vcpm' u{uvgo u" ctg" gs wkrrgf." y j kej " ecp" dg" ugngevgf "f gr gpf u" qp" y g" gzr gtko gpv0' Vj g" o gcuwtgo gpv" hqt"cmlhqy "o gvgt"y cu'f qpg"u{ pej tqpk gf "y kj "y g'y gki j v" o gcuwtgo gpv'qh''y g''j ki j "tgur qpug''y gki j kpi "u{uvgo 0'Vj g" uki pcn'qwr wi'htgs wgpe{"qh"grgevtqo ci pgvke"cpf "Eqtkqrku" hqy "o gygtu'ku'ugv'yq''3"mJ | "hqt"307"o ⁵lj 0Vj g'ltgs wgpe{ "ku" nkpgct" y ký " hny " tcvg0' Wukpi " ý g" eqpxgtvgt" htqo " ý g" htgs wgpe { "vq "xqnci g. "y g "hqy "tcvg "ku"ecrewrcvgf 0 Kp "y ku" gzr gtko gpv.'ý g'htgs wgpe { 'ku'rguu'ý cp'2079'mJ | 0'

Hqt "yj g"WRF H "yj g"wnt cuqpke "tcpuf wegt "y kj "6"O J | " y cu" wugf 0' Vj g" wnt cuqpke" tcpuf wegt "y cu" ugv" y kj "670" kpenkpc kqp" cpi ng" ci ckpuv" vq" yj g" j qtk qpvcn' czku0' Vj g" o gcuwtgo gpv" uge kqp" hqt" yj g" WRF H" ku" eqxgtgf "d{" yj g" y cygt" ej co dgt" vq" cxqkf" yj g" tghnge kqp" pqkug" qh" yj g" wnt cuqpke0' Vj g" o gcuwtgo gpv" qh" yj g" xgnqe k{ "hkgrf " y cu" r gthqto gf "wukpi "yj g" WXR/F wq"d{" O gv Hnqy 0' Vj g" ko g" kpvgt xcn" qh" yj g" xgnqe k{ "r tqhkrg" y cu" 38" o uge0' Vj g" o gcuwtgo gpv" qh' yj g" xgnqe k{ "y cu" cu" r gt qt o g gpv" qh' yj g" xgnqe k{ "y cu" y g" y g" y g" y g" yg yg t'hnqy "o gygt" o gcuwtgo gpv0"

&" '9 I dYf]a YbHJ 'WcbX]hjcb'

Vj g"hqy "tcvg"y kj qwi'r wncvkqp"y cu'ugv'vq"20 7"o⁵ lj " kp" vj ku"gzr gtko gpv0'Vj g"dwmi'xgrqekx{ "kp" vj g" vguv"ugevkqp" y cu"cr r 0'207"o ku0'Vgo r gtcwtg"qh"y cvgt"y cu"42"°E"cpf " y cu"eqpvtqmgf "±204"°E "wukpi "vgo r gtcwtg"eqpvtqn'wpk0"

Vj g''r kr g''ngpi yj ''htqo ''yj g''grgevtqo ci pgvke''hrqy ''o gygt'' yq'' yj g'' j ki j '' tgur qpug'' y gki j kpi '' vcpmi' ku'' 3: 22'' o o 0' Cuuwo kpi ''y cv' yj g''f grc {''vko g''qh''yj g'' xgrqeks{''r tqhkrg''ku'' gs wkxcrgpv''y kyj '' yj g''r tqr ci cvkqp'' ur ggf ''qh'' yj g'' r tguuwtg'' y cxg. ''kk''dgw ggp''yj g''grgevtqo ci pgvke''hrqy o gygt''cpf ''yj g''



Hi wtg'5<"Hny 'hlgrf ''qh'w*t.v+'y ky '*c+'207'J | .'*d+'5'J | ''r wncylqp0''

j ki j "tgur qpug"y gki j kpi "u{uvgo "ku"guvko cvgf "rguu"y cp"4" o uge"cv'o quv0Vj gtghqtg."y g"f grc{"vko g"ku"gs vkxcrgpv'y kj " y g"vko g"tguqnvkqp"qh"y g"hrqy "o gvgtu"cpf "uo crngt"y cp" WRF H0'

'"FYgi`hUbXX]gWigg]cb`

"

Vj g" xgmeks{" r tqhkrgu" w[#]t.v+" kp" yj g" vko g/ur ceg" f qo ckp." y j kej "ctg"o gcuvtgf "d{ "WRF H"ctg"uj qy p"kp"Hki 050J gtg." t "ku'yj g"tcf kcn'r qukskqp"cpf "7" ku'yj g"tcf ksu"qh'yj g"r kr g0V j g" r wncvkqp" htgs wgpekgu"kp"yj gug"hki wtgu"ctg"207"J | "cpf "5"J | 0 Vj g" r wncvkqp" htqy " ecp" dg" kpxguski cvgf " engctn{0 Vj g" xgmeks{ "kp" yj g"y j qng"r kr g"ku"hnvewcvgf "f gr gpf u"qp" yj g" qp/qhh"qh" yj g"r wncvkqp" xcnxg0' kp" yj g"tguvn" hqt"207"J | ." pgi cvkxg" htqy." y j kej " ku" y g" ugeqpf ct{ " htqy." ku" cmq" kpxguski cvgf " pgct" yj g" y cm0' Vj ku" pgi cvkxg" http" o ki j v" kphwgpeg" vq" yj g" https" tcvg" o gcuvtgo gpv" ukpeg" ks" ku" qdvckpgf "d{ "yj g"f ktgev'kpvgi tcvkqp"qh'yj g"xgmeks{ "r tqhkrg0'

Hktuw{." y g"kphwgpeg" qh" y g"r wnx vkqp" hqy "hqt" y g" cxgtci g" hqy "tcwg" ku" kpxguvki cvgf 0' Vj g" tgrx vkqp" dgw ggp" y g"f gxkcvkqp" hqo "y g"pqp/r wnx vkqp" hqy "cpf "y g"qp/qhh" htgs wgpe{"qh" y g"r wnx vkqp" xcrxg" ku" uj qy p" kp" Hki 060' Vj ku" tguvny ku" qdx kpgf "d{" y g"32'mi "y gki j kpi "xcmi'u{ uvgo 0'Vj g" j qtk qpxch'czku" ku" y g"f gxkcvkqp" htqo "pqp/r wnx vkqp" hqy ." y j kej "ku"i kxgp" d{"y g"hqmy kpi 0'

y j gtg."y g"uwduetkr wir "cpf "p"ctg"hqt"y g"r wucvkqp"hqy " cpf "pqp/r wucvkqp"hqy ."tgur gevkxgn{0'm"ku"y g"eqttgevkqp" hcevqt"i kxgp"d{"y g"hqmqy kpi ."

$$m = S_{\rm h} / S_{\rm t}$$
 " " "

 $S_{\rm h}$ 'ku''y g''hqy "tcvg''kpf kecvgf "d{ "hqy "o gvgtu"cpf " $S_{\rm t}$ ''ku''y g'' hqy "tcvg" i kxgp" d{ "y g''tghgtgpeg." j gtg" 32" mi "y gki j kpi "vcpm''u{uvgo 0'



Hki wtg"6<"Kolmvgpeg"qh"yi g"r wncvkqp"Int"cxgtci gf "Inqy "tcvg0'Vj g" dnwg" r qkpwl" cpf " nkpg" ctg" yi g" gngevtqo ci pgvke." yi g" dnceml" ctg" Eqtkqnku"Inqy "o gvgt"cpf "yi g"tgf u"ctg"WRF H0'G"ku"yi g"f gxkcvkqp" htqo "yi g"pqp/r wncvkqp"Inqy 0'

Vj g"grgetqo ci pg\e"hqy o gyt"cpf "WRF H'uj qy u" rcti g'f gxkc\lqp"hqy "yj g"nqy guv"htgs vgpe {0'Vj ku'o ki j v'dg" ecwugf "d{"yj g"tgxgtug"hqy "cu'uj qy p"\p"Hki (5"ukpeg"yj gug" hqy o gytu"ctg"\phnvgpegf "d{"yj g"xgrqek{"rtqhkrg0'Qp"yj g" qvj gt" j cpf." ukpeg" yj g" Eqtlqrku" hrqy " o gytt" ku" pqv" lphvgpegf "d{" yj g" xgrqek{" rtqhkrg." yj g" f gxkc\lqp" ku" tgrc\lxgn{"uo cngt0'Y kj "kpetgcug"r wncvlqp"htgs wgpe{."yj g" f gxkc\lqp" ku" nguu" yj cp" 4' 0' Vj g" grgetqo ci pg\le" hrqy o gyt" ku"utqpi n{"kphvgpegf "d{"yj g" xmcvlqp"hrgy "ctqwpf" 5" O J |." j qy gxgt" ku" f getgcugu" y kj " htgs wgpe{0' Vj g" f gxkc\lqp" hqt" cm" gzco lpgf " o gytu" crrtqcej gu" \q" | gtq" ctqwpf " 9" J | 0' Vj g" co r rkwf g" qh" yj g" r wncvlqp"hrqy f getgcug"y kj "yj g"qp/qhh'htgs wgpe{"qh'yj g" rwncvlqp" kng" cryf "kv'ku"cro quv'] gtq"ctqwpf ": "J | "cu"o gp\kqpgf 0"

Vj g" vtcpukgpv" hnqy " tcvg" i kxgp" d { " hqt " gcej " hnqy " o gvgt"cpf "vj g"j ki j "tgur qpug"y gki j kpi "u{ uvgo "ku'uj qy p"kp"



Hki wtg'7<Vtcpukgpv'hqy 'tcvg'y kj "*c+'3'J | .'*d+'7'J | 'r wncvkqp0'Vj g'drceni'nkpg'ku'y gki j kpi 'vcpm''y g'tgf 'ku'wntcuqpke'r wngf 'F qr r ngt" o gy qf .'y g'dnwg'ku'Eqtkqnku'hqy 'o gygt'cpf ''y g'i tggp'ku'grgevtqo ci pgyke'hqy ''o gygt0'S p'ku'y g'pqo kpcn'hqy ''tcvg'y kj qw'r wncvkqp0'

Hi 070'Wpf gt '3'J | 'r wncvkqp."y g"tcpukgpv'hny "tcvg'i kxgp" d{"y g" WRF H'ku"xgt {"pkg"ci tggo gpv'y kj "y g"Eqtkqhu" hny o gvgt'hqt"pqv'qpn{"y g'tkug/wr "cpf "hcmi'f qy p"dwv'cnq" uo cm' hwewcvkqp" qh" hny "tcvg'0 Vj g" tguwn" WRF H' cnq" ci tgg" y kj "y g" hny "tcvg" d{" j ki j " tgur qpug" y gki j kpi " u{uvgo "hqt"y g'tckug/wr "cpf "hcmi'f qy p"hny "tcvg"dgj cxkqt0' J qy gxgt."y g" hny "tcvg" dgj cxkqt" cv'y j gp" y g" xcnxg" ku" qr gp" ku" ncti gn{"f gxkcvgf 0' Vj ku" o ki j v'dg"ecwugf "d{"y g" f gcf " xqnvo g" dgy ggp" y g" yguv" ugevkqp" cpf " y gki j kpi " u{uvgo 0' Qp" y g"qy gt" j cpf ."y g"hny "tcvg" i kxgp"d{" y g" grgetq o ci pgvke"hny "o gygt" ku"ncti gn{"f khtgtgpv'y kj "y g" WRF O "cpf "j ki j "tgur qpug" y gki j kpi "u{uvgo 0' Qdxkqvun{." y g" vko g" tgur qpug" qh' y g" grgevtqo ci pgvke"hny "o gygt"ku" xgt {"ny "cnj qwi j "y g"cxgtci gf "hny "tcvg"f qgu"pqv'f gxkcvg" htqo 'y go 'cu'uj qp "kp"Hi 060"

Hqt"j ki j gt"htgs wgpe{"r wncxkqp"hqy ."yj g"tcpukgpv" hqy "tcw"i ksgp"d{"WRF H "Eqtkqrku"cpf "yj g"j ki j "tgur qpug" y gki j kpi "u{uvgo "ci tgg"y gm0'Vj ku"tguwn/i wctcpvggu"yj g" tghcdkrk{"qh"o gcuwtgo gpv"tguwnu"hqt"yj g"tcpukgpv"hqy " tcvg" gcej " qyj gt0' Kp" eqpvtcuv." yj g" grgevtqo ci pgvke" hqy o gygt"kpf kecvgu"cm quv'uvcdrg'hqy 'tcvg0"

Cu'uj qy kpi 'lp'y g'r tgxkqwu. 'WRF H'cpf ''y g'Eqtkqku' hqy o gygt''j cu''j ki j ''tgur qpug''hqt''hqy ''tcwg''o gcuwtgo gpv0' Vj g''tkug/wr ''vko g''qh''hqy ''tcwg''kp ''Hki (7*c+'ku''cr r 0'62''o uge0' Htqo ''y ku''tguwx.''y g''tgur qpug''vko g''qh''dqy ''hqy ''o gygtu'' ctg''dgwgt''y cp''62''o uge0'Vj g''cf xcpvci g''qh''WRF H'ku''y g'' cr r necdkrks{ ''hqt''y kf g''tcpi g''uk g''qh''y g''r kr g.''pq''r tguwrtg'' nuu''cpf ''pq''gpvtcpeg''nppi yi 0'Htqo ''yi g''tguwn''qh''yi ku''r cr gt.'' pgy ''cf xcpvci g''y j kej ''ku''j ki j ''tgur qpug''hqt''stcpukgpv''hqy '' ku''guvcdrkuj gf 0''

("GiaaUfmi

Vj ku'r cr gt''tgr qt u''y g''kpxguvki cvkqpu''qh''y g''vtcpukgpv'hqy "

tcvg" qh" y g" ugxgtcn" hqy " o gvgtu" cpf " y g" wntcuqple" hqy o gvgt "dcugf "qp"y g"r wngf "F qr r ngt "o gy qf "*WRF H40' Vj g" tghgtgpeg" hqy " tcvg" ku" i kxgp" d{" y g" i tcxko gvte" o gy qf " y j lej " ku" pgy n{" guxchkuj gf " kp" PO K0' Vj g" hnvewcvlqpu"qh"hqy "tcvg"d{"WRF H'cpf "Eqtkqrku"hqy o gvgt" ctg"ci tggf "y gm"gcej "qy gt"cpf "y kj " y g" tghgtgpeg" hqy " tcvg0'Vj g"kphnvgpeg"qh"y g"hnvewcvlqp"qh"hqy "tcvg"ku" nguu" y cp"4' hqt"WRF H0"

F YZYf YbWYg

 $\label{eq:started_st$

]4_"Vgi wnc."MD"O qtk "O 0"Uwi wnk"V0"Vcngf c."[0"Ecnkdtcvkqp" yguu"qh"r wng/F qr r ngt"hqy "o gygt"cv"pcvkqpcn"uvcpf ctf u"mqr u." Hnqy "O gcuwtgo gpv"cpf "Kputwo gpvcvkqp."3; "*422: +"r r (8: 3/3: 9"]5_"Y cf c."U0"Mkmxtc."J 0"Ctkqo k"O 0"O qtk "O 0"Vcngf c."[0" F gxgmr o gpv"qh"r wng"wntcuqpke"F qr r ngt"o gyi qf "hqt"hqy "tcvg" o gcuwtgo gpv"kp"r qy gt"r ncpv" Iqwtpcn"qh"P wengct "Uekgpeg" cpf" Vgej pqmi {."63"*4226+"r r (85; /568"

]6_'Hwtwlej k "P 0"Hwpf co gpvcn'Wpegtvchpv{ "Cpcn{ uku"qh'Hnqy tcvg" O gcuwtgo gpv" wukpi " vj g" Wintcuqple" F qr r ngt " Xgnqekv{ " Rtqhkng" O gyj qf ." Hnqy " O gcuwtgo gpv" cpf " Kpurtwo gpvcvkqp." 52" *4235+." r r 0424/433"

]7_"Y kmxpf."F0"Rgnxuq."O0"S xcpxkh{kpi "cpf"ur gekh{kpi "yjg" f{pco ke" tgur qpug" qh" hrqy o gygtu." KUC4224." Vgej pkecn' Eqphgtgpeg'%4224+"

]8_"Uj kpf gt."KVK0"O qrf qxgt."O0T0"Hgcukdkrkv{"qh"cp"ceewtcvg" f {pco ke" uvcpf ctf" hqt" y cvgt" hrqy " Hrqy " O gcuvtgo gpv" cpf" Kpurt wo gpvcvkqp."43'%4232+"rr 084: /355"

]9_"Hwt wkej k0'P 0"Vgtcq."[0"Qi cy c."U0"Eqtf qxc."N0"Uj ko cf c." V0"Koygt/ncdqtcvqt {"eqo r ctkuqp"qh'uo cm'y cygt"hnqy "echdtcvkqp" hcekrkskgu" y ky " gz vtgo gn{" ny " wpegtvckpv{." O gcuwtgo gpv." ; 3" *4238+,'r r 076: /778"