

; GA!Gi ddcfh'i `"8cVfY[c DUghYfnU'%\$&#) ž' %! (%* ??fU_Œk a cV]`Y`Ž (, '* \$, %\$+()) ž'B =D', %' ''), * \$- 'F 9; CB.'%, %\$, %' ' (k k k "[ga!gi ddcfh'bYh

<u>7fi]gYf DFC& < 5GD CFM =B5ú</u>





B]Y'dchfnYVi ^Ygn'dcû WhYb]U'n']bhYfbYhYa 'WhmhY '_i dck Ub]U'`c[Œk "

CVgű []k UbY a cXY Y.

 $\begin{array}{l} \textbf{BCK 9'AC89@9}. \text{ } \text{G} \backslash \text{Ufd'J} + \$' \text{ } \text{G} \backslash \text{Z'G} \backslash \text{Ufd'J}, \$\%\text{G} \backslash \text{Z'G} \backslash \text{Ufd'J} - \$\&\text{G} \backslash \text{Z'G} \backslash \text{Ufd'J} - \$\&\text{G} \backslash \text{Z'G} \backslash \text{Ufd'J} - \$\&\text{G} \backslash \text{Z'G} \backslash \text{Ufd'J} - \$\% \backslash \text{Z'B} +) \$] \check{z}' :) \$\$] \check{z}' : \rangle \$\% \check{z}' : \rangle \mathring{z}' :$

GH5F 9 A C 8 9@9. `H*' \$z`H* &, z`H* %\$z`H* %* z`H* %* z`N* \$\$z`N* \$, z`D, \$\$z`D, \$\$z`D, \$\$z`D- \$, z`H* \$\$`H* \$&z`H&&* z`H&&* z`H&* \$z`H&* \$z`H&* \$z`H* *\$`H* \$&z`H* \$\$z`H* \$\$z`H\

: i b_WY.

d]Yfk gnY'bU' k]YWJY'cdfc[fUa ck Ub]U'Xc'nXY'a ck Ub]U'V'c_UXmg]a `cW_'k 'a cXY`UVX'G\Ufd'J , \$%G<ž'G\Ufd'J , \$&G<']'J - \$&G<d]Yfk gnY'bU' k]YVJY'cdfc[fUa ck Ub]Y'dchfUZ] WY'cXV'c_ck UW7=8' * b]Y'dchfnYVi 'Ygn'dcû WiYb]U'n']bhYfbYhYa

b]Y'dchfnYVi 'Ygn'k m_i dck Ub]U'`c[(Ik

cXWnmhi_cXCk inUVYnd]YWnU^ WnWX

na]UbU'cdfc[fUa ck Ub]U

na]UbU'dU_]Yh \times ^ nm_ck m/\ 'cX'_i ghca]nUW]

bUdfUk U'hY'YZcbŒk 'i gn_cXncbmW\\'dcdfnYn'b]Yi a]Y^ hbY'gYfk]gck Ub]Yž'fŒk b]Y '''a fi [U^ WY'''i V'n'_ca i b]_UhYa '''WcbhUWh cdYfUhcf"

k mû WhYb]Y X k] _i '_Ua Yfm

nUd]g'_cd]]'VYnd]YWhY ghk U

 $k \; [\; fUb]Y\; _cd]]\; VYnd]YWnY \;\; ghk \; U$

fYgYh``]Whb]_U'X c^gh]W<u>U</u>U

IK 5; 5. Dfc[fUa 'Xn]UdU'hm`_c'dcX'gmghYa Ya 'K]bXck g'L D

FYa cj Y`FG5`dfchYVM]cb`8+) \$]ž`>' \$\$]ž`>' \$\$V\Z`?' \$\$\VZ`?) \$\$]ž`?') \$\$V\Z`?) \$*\VZ`?) \$, \Z`?) \$, \VZ`?+\$\$]ž`?+\$\$\VZ ?+) \$]ž`?+) \$V\Z`G+\$\$]ž`G+\$\$V\Z`G+%\$U\Z`N) \$\$U\Z`N) \$\$\Z`N) \$\$\VZ`N\%\$%\$]Z`N\%\$%\$\VZ`J, \$\$\Z`J, \$&G9\Z`K, \$\$]Z`K, \$\$\VZ`N, \$\$]Z` N, \$\$WTH&&* z`H&&* gz`H&' +z`H&- \$]z`H&- \$WTH* %\$à 3z`H* %* z`H* %, z`H* &, z`H* ' \$z`N* \$\$z`N* \$, z`D- %\$]z`D- %\$WTD- %\$U` :`Ug\`5JF`5%\$%, gž`5%\$%, gWt`5%\$&, gVt'5&&%, nž`5&&&, nž`5&* %, gž`5&* %, gVt'5&* &, gVt'5&* \, gVt H%, gž'H%, gWZ'H&\$\$ž'H&\$&ž'H&\$YVZ'H&\$YVZ'H&\$gž'H&\$gVZ'H&&* ž'H&&* gž'H&' \$ž'H&' +ž'H&' , ž'H&, 'K CF@8ž'H&, gZ'H&, gVZ H&, nž'H&- \$]ž'H&- \$Wt'H&- \$Už'H&- gž'H&- gWt'H' \$\$ž'H' \$&ž'H' \$*ž'H' \$&ž'H' %&ž'H' %*ž'H' - a ž'H' - a Wt'H* \$\$à 3ž'H* **ž' $\begin{array}{l} H^{*} \, \%, \ \check{z}' H^{*} \, \&, \ \check{z}' H^{*} \, \&i \ \check{z}' H^{*}' + \check{z}' H^{*}' + \check{z}' H^{*}') \ g W \check{z}' H^{*}, \] \check{z}' H^{*}, \] Y \check{z}' H^{*}, \ a \ \check{z}' H^{*}, \ a \ W \check{z}' N^{*} \, \$ \, \check{z}' N^{*} \, \$, \ \vdots \ ` Ug ` ` 5 F A ` @, ` I \ , \ % \& \$ \check{z}' @, \ I \ , \ \% \, \$ \, \check{z}' @, \ I \ , \ \% \, \$ \, \check{z}' @, \ I \ , \ ' ' \, \$ \, \check{z}' @, \ I \ , \ ' ' \, \$ \, \check{z}' @, \ I \ , \ ' ' \, \$ \, \check{z}' @, \ I \ , \ ' \, * \, \mathring{z}' ?) \ \$ \, W \check{z}' ?) \ \mathring{z}' Y \rangle \, W \check{z}' ?) \ \mathring{z}' ? \rangle \, W \check{z}' ?) \ \mathring{z}' Y \rangle \, W \check{z}' ?) \ \mathring{z}' Y \rangle \, W \check{z}' ? \rangle$ G+\$\$]ž`G+\$\$VX`G+%\$Už`N) \$\$Už`N) \$\$]ž`N) \$\$VX`N%\$%\$]ž`N%\$%\$VX`J, \$\$ž'J, \$&G9ž`N, \$\$]ž`N, \$\$VX`5' *%, gVX`=,,, H%\$\$ž'H%\$&ž'H%\$) ž'H%* ž'H' - a ž'H' - a Wž'H* %\$à 3ž'H* %* ž'H* %, ž'H* %, ž'H* ' +ž'H* ' \$ž'H*) gWž'H* ,]ž'H* ,]Yž'H* , a ž H*, a WYN&\$\$z`N&\$, z`N*\$\$z`N*\$, : `Ug\ 'D85'D, \$\$z`D, \$&z`D-\$\$z`D-\$+z`D-\$, z`D-%\$]z`D-%\$Uz`D-%\$VYF'', \$`K CF@8z` F', \$YžF', \$gžF', \$gW: `Ug\ '6`i Yhcch\ 'D, \$\$ž'D, \$&ž'D- \$\$ž'D- \$+ž'D- \$, ': `Ug\ '7F 'H* \$\$ž'H* \$&ž'H* * ': `Ug\ 'N, \$ 75*', ž; 5', , ž; 5*&, ž; :', , ž; :+*, ž; :+, , Vž; :+, , Yž; <', , ž; <'-, ž; <'-, ž; <+*, Wž=, , K CF@8žD5', , žD: +*, žD<', , žF%-\$ GUhY``]hYžF&) \$g DF CžF&-\$ GUhY``]hYžG\ Ufd 'HE!; (\$\$žG\ Ufd 'HE!; ()\$ž H<*, , '8]fYWh'I b`cW_'@, 'I , %%\$ž@, 'I , %&\$ž'?)\$\$]ž?)\$\$WŽ?)\$*WŽ?)\$, VŽ?; \$\$]ž?; +\$\$WŽG+\$\$]žG+\$\$WŽ $G + \% + U \check{z} \cdot N) + U \check{z} \cdot N) + U \check{z} \cdot N) + U \check{z} \cdot N \hat{z} \cdot N \hat{z$ D- \$, ž'D- %\$Už'D- %\$VIZ'D- %\$]Z'F) &\$a Z'F) &\$a Z'F) &\$a Z'F) &\$ a Z'F) &\$ a Z'F) &\$ b Z'H&\$ &Z'H&\$ H&' , ž'H&- \$|ž'H&- \$Wž'H&- \$Už'H' \$\$ž'H' \$&ž'H' \$\$ž'H' \$&ž'H' \$\delta Z'H' - a ž'H' - a Z'H' - a V\delta H' \$\delta Z'H' \$\delta Z'H' \$\delta Z'H' &, z'H' &, z'H' &, z'H' &, z'H' &, z'H' &, z'H' & Z'H' &, z'H' & H*'\$ZH*'+ZH*)gXH*,gWZH*,]ZH*,aZH*,aZH*,aWEN&\$\$ZN&\$,ZN*\$\$ZN*\$,Ib`cW_ij]U'7cXYg`@ I, %%\$Z`@ $\begin{array}{l} I \ , \ \% \$ \check{z} @, \ I \ , \ \% \ , \ \check{z}'?) \$ \$] \check{z}'?) \$ \$ V \check{z}'?) \$ * V \check{z}'?) \$, \] \check{z}'?) \$, \ V \check{z}'? + \$ \$ V \check{z}' G + \$ \$ V \check{z}' G + \$ \$ U \check{z}' N) \$ \$ U \check{z}' N) \$ \$ [\check{z}' N) \$ \$ V \check{z}' N , \$ \$ V \check{z}' J , \$ \$ \check{z}' J , \mathring{z}' J$ D- %\$\ViD- %\$]\infty \&\$a \infty \&\$a \viF) \&\$a \viF\\&\$\$\infty H&\$\$\infty H&\$\$\infty H&\$\\$\infty H&\$\\$\\$\infty H&\$\\$\infty H&\$\infty H&\$ H' \$* ž'H' %\$ž'H' %&ž'H' - a ž'H' - a VY:H* %\$ à 3ž'H* %* ž'H* %, ž'H* &, ž'H* &i ž'H* ' \$ž'H* ' +ž'H*) qVY:H* ,]ž'H* ,]Yž H*, a ž'H*, a WYN*\$\$ž'N*\$, '9a dhmlVcUfX'Dfc[fUa a]b['>'\$\$]ž'>'\$\$WY?' \$\$]ž'?' \$\$WY?+)\$]ž'?+)\$WZK, \$\$]Ž'K, \$\$WZ ?) \$\$] 2 ?) \$\$ 3 V 3 ?) \$* 4 V 3 ?) \$, 4 [2 ?) \$, 4 8 3 [2 ?) \$5 4 8 4 8 4 9. 4 8 4 9. 4 9 J, \$\$žJ, \$&G9žN, \$\$]žN, \$\$WžD, \$\$žD, \$&žD- \$\$žD- \$+žD- \$, žD- %\$UžD- %\$WžD- %\$]žF) &\$a žF) &\$a WžH&\$\$žH&\$&ž H&&* ž'H&' \$ž'H&' +ž'H&', ž'H&-\$]ž'H&-\$Vž'H&-\$Už'H'\$\$ž'H'\$&ž'H'\$*ž'H'%\$ž'H'%*ž'H'-a ž'H'-a WZ'H*%\$à3ž'H*%*ž'H*%, ž'H*&, ž'H*, ž'H*, a WZ'H*, a Z'H*, a WZ'H*, a WZ'H*\$\$ž'H*, iz'H*, iz'H*, iz'H*, a WZ'H*, a WZ'H', a WZ'H', a Z'H', a WZ'H', a WZ'H', a Z'H', a WZ'H', a Z'H', a WZ'H', a Z'H', a WZ'H', a Z'H', a Z'H', a Z'H', a Z'H', a Z'H', a WZ'H*, a Z'H', a Z'H' D, \$\$z'D, \$&z'D- \$\$z'D- \$+z'D- \$, z'D- %\$Uz'D- %\$VZ'D- %\$]z'F) &\$a z'F) &\$a Wz'H&\$\$z'H&\$*z'H&* z'H&' \$z'H&' +z'H&' , z H&- \$]ž'H&- \$WI'H&- \$UZ'H' \$\$ž'H' \$&Z'H' \$*Z'H' \$%Z'H' \$%Z'H' \$Z'H' - a Z'H' - a WI'H* &i Z'H* \$\$ 3Z'H* \$%Z'H* \$%Z'H* \$, Z'H* \$ H*' +ž'H*) gž'H*) gWz'H*,]z'H*,]Yz'H*, a z'H*, a Vz'N*\$\$z'N*\$, FYdU]f'XUa U[YX VmHYfa]bUhcf#7cc`Yf'F) &\$a z F) &\$a WtH&\$\$z'H' \$\$z'H' \$&z'H' \$*z'H' \$*z'H' \$%z'H' \$%z'H' \$%z'H' **z'H' - a z'H' - a wt'H*) gz'H*) gvtH*,]z'H*,]Yz'H*, a z $H\%\$) \ \check{z}'H\%\$^* \ \check{z}'N\&\$\$\check{z}'N\&\$, \ \check{z}'>\&\$\$WF'Ya \ cj \ Y'CdYfUhcf''7i \ ghca \]nUh]cbg'?) \ \$\$]\check{z}?) \ \$\$W\acute{z}?) \ \$^* \ W\acute{z}?) \ \$, \]\check{z}?) \ \$, \ W\acute{z}?) \ \$, \ [\check{z}'?) \ \$, \ W\acute{z}?) \ \$, \ [\check{z}'?] \ \$, \ W\acute{z}?) \ \$, \ W\acute{z}?) \ \$, \ [\check{z}'?] \ \$, \ W\acute{z}?) \ \$, \ W\acute{z}?$?+\$\$]ž`?+\$\$VZ`G+\$\$]ž`G+\$\$VZ`G+%\$Už`N) \$\$Už`N) \$\$]ž`N) \$\$VZ`N%\$%\$]ž`N%\$%\$VZ`J, \$\$ž'J, \$&G9ž`N, \$\$]ž`N, \$\$VZ`H&' \$ž $\begin{array}{l} H\&' + \check{z}'H\&' \;,\; \check{z}'H^* \;,\; a\; \check{z}'H^* \;,\; a\; \check{W}'H^* \;,\;]\check{z}'H^* \;\&i\; \check{z}'H^* \;\check{z}'H^* \;\check{z$ $CghUhb]Y'U_hiU']nUWY.$

J Yfg]cb'-"*' 'ff% h\ A Um&\$\$* Ł.
K Y`\ Uj Y`XYWJXYX`hc'fY`YUgY`gYdUfUhY':]fa k UfY`F YghcfU``]bghU``Yf"

5XXYX':]fa k UfY`fYghcfY`Vi hhcb'hc'h\ Y`GYW'f]hmdU[Y"'=h'Ui hca Uh]WU``m`cc_g`Zcf`dfcdYf`Z]fa k UfY`fYghcfU``Z]`Y`UbX
Z`Ug\ Yg`]h'hc'h\ Y`d\ cbY"

< Y`d`Z]`Y`i dXUhYX"

J Yfg]cb - "* % fl%&h\ A Um&\$\$* Ł. 5XXYX gi ddcfh Zcf ?) %\$ d\cbYg"

JPPDR 5XXYX`gi ddcfh`Zcf`fYUX]b[`i b`c\<u>W</u>#fY`c\<u>W</u>`\WcXYg`Zfca `N' \$\$ 5XXYX gi ddcfh Zcf fYUX]b['ZUg\ 'Zfca 'N' \$\$" I dXUhYX H57]gh Zcf N) ' \$]"I dXUhYX Vi]`h!]b Wighca]nUh]cbg" J Yfg]cb - ") (fl, h\ A Um&\$\$* Ł. :] I YX `Udd`Yh`gY`YV**M** $] cb`dfcV`Ya "`G\ci`X`Z] I `h\Y`GYbX] b[`Udd`Yh`dfcV`Ya "`G\ci`X`Z] I `h\X`Z`I `$ J Yfg]cb '- ") ' 'fl, h\ 'A Um'&\$\$* Ł. I dXUhYX`H57``]gh'Zcf`H&' \$]ž'H&- \$]ž'H*' \$ž'H*' +ž'J, \$\$ž'K, \$\$]ž'K, %\$]ž'N) &\$]`UbX`@, 'I, %', 7" :]I YX bcb! 9b[`]g\ ``Ub[i U[Y ghf]b[g" J Yfg]cb - ") & fl, h\ A Um&\$\$* Ł. : i ```gi ddcfh'Zcf`Xck b`cUX]b['Z]`Yg`Zfca 'K , %\$ 'UbX`N) ' \$ 'd\cbYg" < Y`d Z]`Y g`][\ h`mi dXUhYX ! a cfY hc Wta Y gccb" J Yfg]cb - ") % fl, h\ A Um&\$\$* Ł. Gca Y cdYfUh]cbg a UXY ZUghYf" =bWfYUgYX`Z`Ug\Yf`jYfVcg]hm' :]I YX a]bcf K - \$\$! fY UhYX Vi [" J Yfg]cb '- ") \$ fl+h\ 'A Um'&\$\$* Ł. $5XXYXZI bWM]cbU`]hmZcfbcb!HD`ZUg\]b[`fYX`7=8(-`d\cbYg`f]]bWiX]b[`K,%$`UbX`N)`$£'k]h\``c\\YX!Xckb'9FCA$ UfYU' $5XXYX'ZI bWM]cbU`]hmZcf'bcb!HD'I b`cW]b[#fY`cW]b['fYX'7=8(-'d\cbYg'f]bWiX]b['K , %$'UbX'N)' $k'k]h\``cW_YX!$ Xck b '9F CA 'UfYU" 5XXYX`bcb!HD`:G`ZibWh]cbU`]hm'Zcf`fYX`7=8(-`d\cbYg`f]]bWiX]b[`K, %\$`UbX`N)'\$Ł`k]h\``cW_YX!Xckb`9FCA`UfYU" 5XXYX gi ddcfh'Zcf'bcb! HD =A 9= WX Ub[Y]b fYX 7=8(- 'd\cbYg'k]h\ `cW_YX! Xck b '9FCA 'UfYU" $5XXYX'gi\ ddcfh'Zcf'Vbj\ Yfh]b[\ fYX'7=8(-\ ?+)\ \$\check{z}'K\ ,\ \$\$'UbX'N)\ \&\$'d\ cbYg'k\]h\ 'i\ b`cW\underline{YX'9FCA'UfYU'hc'Vfck\ b}$ 7=8(-" =a d`Ya YbhYX'I b`cW_'FG5'Zi bWh]cb'Zcf'fYX'7=8(-'d\cbYg" h\ci[\']hg'i gY']g'XYdfYWUhYX" $5XXYX "gi \ ddcfh" Zcf" Ui \ hca \ Uh]WZ] fa \ k \ UfY"]XYbh]Z]WUh]cb"]b"fYX" 7 = 8(- "d\ cbYg") + (- "d\ cb$ Gca Y`dUHMXYfg`k YfY`UbU`mn]b[': CH5`UfYU`VmU`a]gHU_Y`ff]"Y"`bch`][bcf]b[']HŁ`UbX`h\YfYZcfY`bch`Zi bVM]cb]b[dfcdYf`m'Zcf'gca Y'd\cbY'a cXY`g" GYj YfU`'Udd`Yhg'i dXUhYX" Gca Y'Vi]`h!]b'W ghca]nUh]cbg'k YfY'i dXUhYX" J Yfg]cb '- "&' 'fl) h\ 'A UfVX '&\$\$* Ł. =bghU``Yf'i dXUhYX" I dXUhYX 'H57 ``]gh'Zcf 'H&- \$Už'?' \$\$Už'?+) \$]ž'@, 'I , %&\$ 'UbX 'G\ Ufd 'J +\$' G<: " $Gk YX]g\ ``Ub[i U[Y'ghf]b[g'i dXUhYX'U[U]b"]$ J Yfg]cb '- "&& 'fl%gh'A UfVX '&\$\$* Ł. IPPOR =bghU``Yf'i dXUhYX" 8YVi[@c[ZibWh]cbU`]hmidXUhYX" A]bcf 'W\ Ub[Yg hc 'Vcch'WcXY" $G^{[]} \ hm]bWYUgYXZUgVYf'jYfVcg]hm'$ $\begin{array}{l} Gk\ YX]g\ ``Ub[\ i\ U[\ Y\ ghf]b[\ g'i\ dXUhYX" \\ G`cj\ U_ ``Ub[\ i\ U[\ Y\ ghf]b[\ g'i\ dXUhYX" \\ \end{array}$ J Yfg]cb - "&%"fl&* h\ : YVfi Ufm'&\$\$* Ł. =bghU``Yf'i dXUhYX" 9FCA 'UbX': CH5 'Z]`Yg'a cj YX'ci h'Zfca 'h\Y'\Y`d'Z]`Y" : fca 'bck 'cbž'h\Y': cfa Uh'; 8: G'Zi bWh]cb'k]``'VY'i bUj U]`UV`Y"'=h'k Ug'UVi gYX'hcc'cZhYb" : fca 'bck 'cbž'h\Y': `Ug\ '5FA 'Z bWh]cb'k]``'VY i bUj U]`UV`Y]b 'Wfh]Z]WUhY fYWtj Yfma cXY" < Y`d'Z]`Y'i dXUhYX" I gYf a Ubi U`]b D8: Z]`Y Zcfa UhfY`YUgYX" J Yfg]cb - "&\$ fl&) h\ : YVfi Ufm&\$\$* Ł. A]bcf 'W\ Ub[Yg hc '9F C A 'UfYU'Z'Ug\]b['WcXY" I dXUhYX ? +) \$#K)) \$#K , \$\$#K - \$\$#N) &\$ Vi]`h!]b W ghca]nUh]cbg" J Yfg]cb - "% fl&(h\ : YVfi Ufm&\$\$* Ł :]I YX U Vi ['fY[UfX]b['7fYUhY Z]`Y 'dUV<u>V</u>U[Y 'cdh]cb"

A]bcf VX Ub[Yg hc Vcch]b[VxcXY"

5UPPO CdYb#gUj Y'X]U`c['WcXY'i dXUhYX" $\label{eq:continuous} J\ Yfg]cb - \ ''\% \ 'fl\&(\ h\ ':\ YVfi\ Ufm\&\$\$^*\ Ł.$ $FYghcfYX'h(Y'UV]]hmhc'VXUb[Y'=A9='cb'G(Ufd''; 'd(cbYg'')=h'k Ug'XYdYbXYbh'cb'h(Y'Ib'cV_FG5'Z)bVM]cb'k (Y'W')$ k UgʻfYa cj YX Zcfʻh\ YgYʻd\ cbYgʻfYVVbh`m' =bWfYUgYX jYfVcg]hmZcfcdYfUhcffga]ghU_Yg" $7\Ub[Yg]b\HD!\UbX]b[\WcXY"$ J Yfg]cb - "%+ fl&' fX : YVfi Ufm&\$\$* Ł. I dXUhYX "Ub[dUW_ 'XYgWf]dh]cb 'Zcf'K - \$\$" :]IYX'Vi[']b';8:G'UWWYgg'WcXY'Zcf'd\cbYg'k]h\'VUgYVUbX'=8g'\$I,\$\$\$'UbX'\$I,\$(\$" FYXi WYX]a dcfhUbWY cZI b`cW_FG5 Zi bWhjcb"=hg\ci `X bchVY bYYXYX Zcf Vfck b UbX V`i Y d\cbYg Ubma cfY" J Yfg]cb - "%* fl&&bX : YVfi Ufm&\$\$* Ł. $A] bcf'W X Ub[Yg'] b'FG5'd \cbY'Vcch] b['UbX'g \i hXck b'WcXY''] \\$ I dXUhYX H57 ``]gh Zcf `>&%\$]" FYXi bXUbWmXYWfYUgYX U[U]b" Ch\Yf'a]bcf'Vi [Z]l Yg" BchY. =h']g fYWta a YbXYX hc Z]``U``G9 Ya dhnVcUfXg fY[UfX`Ygg cZ'h\ Y]f d\ cbY hmdY VmVfck b 7=8(- 'Wffh]Z]WUhY j]U 7=8(- fYWtj YfmVcch'UbX'WYfh]ZJWUhY fYdU]f"J Yfg]cb - "%) fl&&bX : YVfi Ufm&\$\$* Ł. 5XXYX gi ddcfh Zcf i b`cW]b['gYj YfU` bYk I, % \$ Z]fa k UfYg" I dXUhYX 5FA %\$\$(#&\$\$) : 5E \Y`d!Z]`Y gYVM]cb" 5XXYX: 5E \Y`d!Z]`Y'gYWM]cb Zcf'G\Ufd"; 'd\cbYg" :]I YX 'Vi [']b ``Ub[dUW_ 'XYgWf]dh]cb 'Zcf'? +\$\$" J Yfg]cb '- "%('fl%- h\ ': YVfi Ufm'&\$\$* Ł. 5XXYX gi ddcfh Zcf i b`cW]b['gYj YfU` bYk 'I , ' ' \$ Z]fa k UfYg" I dXUhYX H57 ``]gh'Zcf 'G]Ya Ybg '7* &" :]I YX a]bcf H* %\$ Vi [a Ub]ZYgh]b[]hgY Z cb gca Y K]bXck g j Yfg]cbg" I dXUhYX @, I ,)) \$ 'V `c W_ ``]gh 'Wta Vc! VcI 'Zcf 'Z Ug\ 'fYUX]b[" J Yfg]cb '- "%' 'fl%- h\ ': YVfi Ufm&\$\$* Ł. :]I YX 5J F ZUg\]b['Vi ['Zfca 'j Yfg]cb '- "%\$" I dXUhYX 'H57 ``]gh'Zcf '>' \$\$] 'UbX '?' \$\$]" $BYk ~~^{'}Z]fa~k~UfY~^{'}dUhWkYf~^{'}Yb~^{[}]bY~^{'}]a~d~^{'}Ya~YbhYX"~^{'}fl5dd~^{[}]YX~^{'}hc~^{@},~^{'}Zcf~^{'}bck~z~^{'}G\backslash Ufd~^{'}UbX~^{'}G9~^{'}UhYf~^{'}L$ 5XXYX gi ddcfh Zcf dUhW]b[bYk Yf @ ' ; Z]fa k UfYg" J Yfg]cb - "%& ff%* h\ : YVfi Ufm&\$\$* Ł. :]I YX a]bcf F G5 i b cW Vi [" J Yfg]cb '- "%%'fl%* h\ ': YVfi Ufm'&\$\$* Ł. : `Ug\ Yf`a cXi `Yg`i dXUhYX`U[U]b" J Yfg]cb - "%\$ fl%* h\ : YVfi Ufm&\$\$* Ł. =h']g'dcgg]V`Y'hc'cdYb'a cfY'Z'Ug\'Z]`Yg'Uh'cbW BchY. '>i gh'\c'X'h\Y'7hf`'_Ymk\]'Y'gY`YVM]b['Z]'Yg" $= h']g'dcgg]V'Y'hc'W'ghca]nY'Z]'YgmghYa'UihcaUh]VVV'`mf][\h'UZhYf'ZUg\]b['fUk':G'5'''ZUg\Yf'acXi'Yg'kYfY'idXUhYX'']$ A] bcf'W Ub[Yg'] b'7=8) ('WcbZ] [ifUh] cb'UbU`mg] g'WcXY''A cX]Z]YX XYZUi `h'ghUhY cZ'9I hYbXYX WcbZ]['cdh]cbg" D\cbY':]fa k UfY'6UWi d'ff'dZVŁ'Z]'Yg'WfYUhYX']b'h\]g'j Yfg]cb'UfY'bch'VUWk UfXg'Wta dUh]V'Y'ff]"Y"'g\ci `X'bch'VY i gYX k]h\ dfYj]ci g j Yfg]cbgŁ" $\label{eq:hcbyhk} H\ Y\ @c\ W\ 'hc\ 'b\ Yhk\ cf'\ 'cdh] cb\ 'g\ ci\ `X\ 'bch'\ VY\ 'YbUV\ `YX\ 'Zcf'\ fYX\ '7=8(\ \%''(\ \&'d\ cb\ Yg'')) .$:]I YX a]bcf : G W ghca]nUh]cb]ggi Y" :]I YX a]bcf ; 8: G#: G Vi ['Zfca 'j Yfg]cb - "\$\$" K)) \$ flbYk < K L'hYghdc]bh'd]Whi fY'i dXUhYX" I dXUhYX 'H57 ``]gh'Zcf 'H&- \$Už'?' \$\$] 'UbX'? +\$\$]" 7caaib]WUh]cb WcXY i dXUhYX" GhUfhi d'WcXY'a cX]Z]YX" 5 ZYk a Ya cfm`YU_g fYa cj YX" J Yfg]cb - "\$' fl- h\ : YVfi Ufm&\$\$* Ł. PPOR :]I YX F G5 '5J F 'Vcch]b['Vi ['Zfca 'j Yfg]cb '- "\$\$" :]IYX'a]bcf'gYWf]hmncbY'WfYUh]cb'Vi [" IdXUhYX'J#?*\$I hYghdc]bh'd]WhifYg" J Yfg]cb - "\$& fl, h\ : YVfi Ufm&\$\$* Ł.

:]I YX'; 8: G'UbX': G'UWWgg'Vi ['Zfca 'j Yfg]cb'- "\$\$" :]I YX'Vfck b#V'i Y'7=8' + 'Vcch]b['Vi ['Zfca 'j Yfg]cb'- "\$\$"

SUPPOR J Yfg]cb - "\$%fl, h\ : YVfi Ufm&\$\$* Ł. :]I YX G\ Ufd " ; "Z Ug\]b["Vi ["Zfca "j Yfg]cb - "\$\$" $J Yfg]cb - "$$ fl+h\ : YVfi Ufm&$$* Ł.$ $= a \ d`Ya \ YbhYX`@, \ I\ ,\)\) \ fYX`7=8) \ (\ 'i\ b`cW]b[\ 'k\]h\ ci\ h'i\ g]b[\ 'hYghdc]bh''K\ cf`Xfg`Z]fgh`U[\ U]b°$:]I YX'U'Vi [']b $Z'Ug\setminus$]b['fUk ': G'Z]Yg'j]U'9D='I G6'' $:]I YX g`ck !ZUg \] b[`Vi ['Zcf`GH`A]W cY`YWW fcb] Wg`W \] dg" \\ :]I YX cWW Ugg] cbU``G \ Ufd'' ; 'ZUg \] b[`Vi ["$ 7\Ub[Yg]bG\Ufd'; ZibWh]cbU`]hm' 7\Ub[Yg']b'@, '; 'Zi bWh]cbU`]hm' 9bUV`YX`ZUg\`fYUX]b['Zfca 'bYk '5FA 'd\cbYg'Zcf'U```i gYfg" $5XXYX^2Z^3$ ```gi ddcfh^Zcf^6`i Y^7=8(- 'd\cbYg^k]h\ 'VUgYVUbX'VX]d'=8'\$I +%\$\$" $\label{thm:conditional} Gca\ Y`cdYfUh]cbg`cb`6`i\ Y`UbX`6fck\ b`d\ cbYg`k\ YfY`a\ UXY`ZUghYf"$ 5XXYX giddcfh Zcf HAG WWV Y Uihc XYhYWh]cb " :]IYX`Vi[`]b`8]gUV`Y#9bUV`Y`CHD`=A9=`W\YW<u>\</u>`ZibWM]cb`Zcf`bYk`5FA`d\cbYg" H\Y'dfYj]ci g'WcXY'k Ug'Yl W'gg]j Y`mcdh]a]nYX:]l YX'a]bcf'>' \$\$ 'Z]`Y gY`YWj]cb]ggi Y" I dXUhYX'H57``]gh'Zcf'N' \$\$]ž'N' \$\$U'UbX'?+) \$]" FYXi bXUbWmXYWfYUgYX U[U]b" J Yfg]cb , "%% fl h >Ubi Ufm&\$\$* Ł. F Y Y U g Y X Z U g Y Z C f i b c W] b [@ I,)) \$ "=b h] g j Y f g] c b h V g h V Y Z U g Y X j] U H D " $\label{thm:condition} Hc\ fYdU]f'd\ cb\ Yg'XUa\ U[\ YX'Vmch\ Yf'hcc\ g'h]\underline{W}\ 'Cj\ Yfk\ f]hY'Z'Ug\ 'WYfh]Z]VWhY'cdh]cb''$ =hˈg\ci `X`VY`bc a cfY`bYWfggUfmhc i b`cW_FG5`VYZcfY`i b`cW_]b['bYk 'G\Ufd'd\cbYg'j]U'dUhW\]b[" =bghU``YfidXUhYX" :]I YX 'U 'Vi ['fY[UfX]b['D- %\$U'd\cbYg" I dXUhYX 'H57'`]gh'Zcf'H*' \$]'UbX'G\Ufd'J +\$' G<" GYj YfU`dfchchmdY!fY`UhYX i dXUhYg" 6i]`h!]b W ghca]nUh]cbg i dXUhYX" JYfg]cb', "%\$'fl&&bX'>Ubi Ufm&\$\$* Ł. Cb[c]b['gcZhk UfY'UfVX]hYWhifU`'VXUb[Yg" FYXi bXUbWmXYWfYUgYX" 5XXYX`giddcfh'Zcf`dfc[fUaa]b['K, %\$#7`Yc#Ai`Ub`Yadhm\VcUfXg' 8ck b`cUX]b['Z]`Yg`Zfca '?+) \$#K , \$\$#N) &\$ 'YbUV`YX 'Zcf'U```i gYfg" 8ck b`cUX]b['Z]`Yg`Zfca 'K)) \$#K *\$\$ 'YbUV`YX 'Zcf'U```i gYfg" 8ck b`cUX]b['Z]`Yg'Zfca 'K - \$\$ YbUV`YX Zcf'U``i gYfg" I dXUhYX'H57'']gh'Zcf'H&' \$]'UbX'>&\$\$]"H\YfiG6`]bhYfZYfYbWrcWWffYXfia YggU[Yg\ci`X'UddYUf``Ygg`ZfYeiYbh`mk\Yb`ig]b['bcbWcbZcfa]b['WWYYg" 5XXYX gi ddcfh Zcf HA G WUV Y" $\label{eq:hammadef} H\ fck\ b\ Uk\ Umh\ Y\ c\ X\ z\ gdcfUX]VV\ `mk\ cf_]b[\ z\ Y\ d\ Yb[\]bY" I\ dXUhYX\ a\ UbmhYI\ hg\]b\ 7fi\]gYf\ Y\ d\ Z]\ Y"\ H\ Ub_g\ hc\ A\ i\ ddYh"$ < Y'd'Z]'Y'Wta d'YhY'mfYcf[Ub]nYX"'Bck ']h'gYYa g'hc'VY'a cfY'hcdc'c[]WU'`m'WtffYWH' < Y`d`Z]`Y`gWfYYbg\chg`idXUhYXž`XYgWf]dh]cbg`idXUhYX`hcc" < Y`d`Z]`Y`9F C A ! Z]`Yg`i dXUhYX" K - \$] 'hYghdc]bh'd]Whi fY']bWi XYX'hc'h\Y'\Y`d'Z]`Y" $\label{eq:hammonic} $$H\ Y @Ub[DUW_]bZc\ Vi\ hhcb\ g\ ci\ X\ VY\ fY\]UV\ Y\ bck\ "$$$ $\label{eq:hamman} $$H(Y): \%'_Ymg(ci_X'fY)^{UV'm}]b_j_c_Y'h_Y'fY'Y_j_Ub_h'(Y)^d'hcd_W'=h'k_cf_g']b'h_Y'GYhh]b_[g'k_]bXck'hcc'' $$$ 5XXYX gi ddcfh Zcf 7=8% 9FCA fYWcj Yfm' 8YVi [@c[Zi bWh]cbU`]hma cX]Z]YX`gc h\Uh`]h\Wb VY`i gYX`k]h\ K]bXck g`BchYdUX" GYW f]hm=fYbUa YX hc GYW f]hm5JF" 6i]`h!]b W ghca]nUh]cbg i dXUhYX" J Yfg]cb', "\$\$'fl%(h\'>Ubi UfmŁ $= a \ d`Ya \ YbhYX`fYX`7 = 8 (- i b`cW]b[`UbX`Z`Ug`]b[`k]h\ ci hi g]b[`U'hYghdc]bh''$ H\Y'fYU`'ghUbXU`cbY'k Umž'bc''9A A 5 'ga UfhWUfX'i gU[Yž'k cf`Xfg'Z]fgh' Gi ddcfhYX'd\cbYg'UfY'K))\$]#Wt'K *\$\$]ž'?*\$\$]#Wt'?*\$,]'UbX'J *\$\$]"'A cfY'a cXY`g'Wta]b['g\cfh`m' @cUXYfg'i dXUhYX" J Yfg]cb + "%* ff% h\ >Ubi UfmŁ $= bghU``Yf'i \ dXUhYX"'BYk \ `WUV`Y`Xf]j \ Yf'j \ Yfg]cb'fl&%+*E']bWi \ XYX"$ 6i]`h!]b W ghca]nUh]cbg'i dXUhYX"'9l dYf]a YbhU`: CH5 gi ddcfh'UXXYX" Gca Y'; 8: G! fY`UhYX'VX Ub [Yg" $7\Ub[Yg]bibcw_ZibWh]cbU]hm'$ $G'[\ \ h'mVX \ Ub[\ YX'Z] \ bVM]cbU']hmcZ'h\ Y'd\ cbY'hmdY'Z]`hYf"$ 5XXYX gi ddcfh Zcf hk c bYk Z Ug\ =8g" FG5 WcbZ][ifUh]cb UbU`mg]g WcXY idXUhYX U[U]b" @cUXYfg'k YfY'i dXUhYX" A]bcf 'UfVX]hYVVi fU` 'VX Ub[Yg" 5``ck YX hc 'VX Ub[Y ``Ub[i U[Y hc '7\]bYgY#A U`Um'Zcf 'bcb!7\]bYgY 'UbX 'bcb!A U`Um'WufX' i gYfg"

5UPPO J Yfg]cb '+"%) 'fl%gh'>Ubi Ufm'&\$\$* Ł. GYj YfU`Wcaaib]WUh]cb gWf]dhg i dXUhYX" $I \ dXUhYX \ H57 \ "]gh'Zcf'K \ , \$\$J\check{z}'K \ , \$\$J\check{z}'N) \ \&\$J\check{z}'N) \ \&\$V\check{z}'N) \ \&\$U\check{z}'? * \$\$J\check{z}'? * \$, \]\check{z}'>\&\$\$J\check{z}'H\&' \ \$]'UbX'H\&- \$U'' \ , \ \&\$J\check{z}'N) \ \&\$V\check{z}'N) \ \&\$U\check{z}'? * \$\$J\check{z}'? * \$, \ J\check{z}'>\&\$\$J\check{z}'H\&' \ \J'' @, 'I , ' , \$ 'hYghdc]bh']bWi XYX 'hc 'h\ Y '\ Y `d 'Z] `Y" 5XXYX 'Ub 'cdh]cb 'hc 'k f]hY 'fYd `UWYa Ybh'i b]h'W ghca]nUh]cb" 6hk ž'\UddmbYk 'mYUf° J Yfg]cb '+"%('fl' %gh'8YWl'a VYf '&\$\$) Ł. 5bch\ Yf '? * \$,]'hYghdc]bh'd]Wli fY ']bWi XYX 'hc 'h\ Y '\ Y`d 'Z]`Y" $\label{eq:continuous} $$ \K cf`X'; YbYf]WXYW ghca]nUh]cb'\Ug'VYYb'fY`YUgYX'' $$$ $> \&\% fYdU]f'Z]Y' \setminus Ug'VYYb'fY'YUgYX''FYaYaVYf'hc'fYWU'W'UhY'7F7g'fh\Y'd \setminus cbY'g \setminus ci'X'VY'UhhUW\YX'Ug' > \&\$\$L'' \\$ $FYdU]f'9FCA'ZIbVM]cbU`]hmidXUhYX'hc'fYZYVM'K-\$\$'d\cbYg''6fck'b'7=8(-'d\cbYg'UfY'giddcfhYX'bck'')$ \ Y`d 'Z]`Y" Gca Y``cUXYfg`k YfY`i dXUhYX" BchY. =Z'mci f d\cbY ZfYYnYg f][\h'UZhYf dck Yf]b[cbž hfmX]fYVhi b cVV]b[]h" J Yfg]cb + "% 'fk- h\ '8 YWa VYf '&\$\$) Ł. Gk YX]g\ "Ub[i U[Yg" A $Ubmh\ Ub_g'hc' - J c'hc' Zcf' dfYdUf]b['; fYY_'hfUbg'Uh]cb''$ $5XXYX @Ub[i U[Y'dU[Y'hc'h\Y'GYhh]b[g'k]bXck "'H\]g'dU[Y']g'bch'g\ck b'Zcf'7\]bYgYž'A U`UmUbX'=bXcbYg]Ub'WUfXg'' I dXUhYX'H57``]gh'Zcf'H&-$]ž'?+)$]ž'N) &$Už'K *$$]ž'@, 'I , '*$ž'G]Ya Ybg'7*&"$; 8: G'WcbZ][i fUh]cb'Vi ['Z]I YX'Zcf'N) &\$U"'Bc'bYYX'hc'UhhUW\'h\Ya''Ug'N) &\$]#WUbma cfY" =a d'Ya YbhYX'gYj YfU'': G! fY'UhYX'Zi bWh]cbg'Zcf'Vfck b'7=8(-'K')) \$#K *\$\$'d\cbYg" I dXUhYX'K * \$] Vi] h! b W ghca]nUh]cbg"I dXUhYX K - \$\$] Vi]`h]b W ghca]nUh]cbg" $BYk \ "Vfck \ b \ "7=8 \ (-\ "hc \ "fYX \ "7=8 \ (-\ "Wcbj \ Yfg]cb \ "9FCA \ "Z]"Y \ "Zcf"K \) \) \ \$\#K \ * \$\$ "d \ cbYg" \ Ug"VYYb \ "]bWi \ XYX \ "hc \ "h\ Y"\ Y"d \ "Z]"Y "$ Gca Y'dfchchmdY!fY`UhYX'i dXUhYg" JYfg]cb + "% fl&bX 8YW a VYf &\$\$) Ł. :]I YX 9F CA 'fYdU]f ']ggi Y 'Zcf'Vfck b '7=8(- '? * \$, " PPOR I dXUhYX'K - \$\$]``Ub[dUW_']bZc" Gca Y'WX Ub [Yg'hc'Udd`Yh'i d`cUX'ghfUhY[]Yg" J Yfg]cb '+ "%%'fl' fX '8 YWYa VYf '&\$\$) Ł. $5XXYX "gi \ ddcfh" Zcf" Z Ug \]b[\ "7=8) \ (\ "d \ cbYg" fl@,\ "I\ ,\)\) \ \$k"k\]h \ ci\ h"i\ g]b[\ "hYghdc]bh"$ F~G5~WcbZ][~i~fUh]cb~Ub~U`mg]g~WcXY~g`][~h`mi~dXUhYX~hc~fYZYWh77=8)~(!fY`UhYX~WX~Ub[~Yg")]=bWfYUgYX fcVighbYgg`cZFG5`WcbZ][ifUh]cb`UbU`mg]g`WcXY`hc`dfYjYbh'dchYbh]U`WfUg\Yg`cb`]bjU`]X`ZUg\`WcbhYbh'' 5XXYX`U`hYfbUhY`aYh\cX`cZ'fYd`UW]lb[`FG5`WYfh]Z]WUhYg" :]I YX cbY Vi []b ck ! Yj Y Wca a i b] WUh]cb WcXY" : j| YX ga U``Vi []b FYdUjf WYfh]Z]WUhY Zi bWh]cb" :]I YX cbY dfYj]ci g`m]bhfcXi WYX Vi [']b '; 8: G'UWWYgg Zcf D- %\$" I dXUhYX ? +) \$] Vi] h!]b W ghca]nUh]cbg" I dXUhYX`K , \$\$]`Vi`]`H']b`W'ghca`]nUh]cbg" I dXUhYX`H57``]gh'Zcf`?' \$\$]ž`? +\$\$]ž`H&- \$]ž`@, `I , ' ' \$`UbX`G\ Ufd`J - \$' G< " J Yfg]cb + "% fl&&bX Bcj Ya VYf &\$\$) Ł. : fca 'bck 'cb']h']g'dcgg]V`Y'hc'Xck b`cUX'Z]`Yg'Zfca ': G'hc'gdYWJU`'UfW\]j Y'Z]`Yg']b'''WZd'fl7fi]gYf':]`Y'DUW_U[YŁ'Zcfa Uh'' : fca 'bck 'cb']h']g'dcgg]V`Y'hc'i d`cUX'''WZd'dUW_U[Y'WcbhYbh'hc'd\cbY': G'' 5b'@, 'I,)) \$ 'hYghdc]bh'd]WhifY'UXXYX'hc'h\Y'\Y`d'Z]`Y" I dXUhYX'K *\$\$]'Vi]`h!]b'W ghca]nUh]cbg" I dXUhYX'?*\$,]'Vi]'h!]b'W ghca]nUh]cbg' I dXUhYX'?+\$\$]'Vi]`h!]b'Wyghca]nUh]cbg" :]I YX'f) 9\$K fiW ghca]nUh]cb'Vi ['Zfca 'j Yfg]cb'+"\$\$" =h']g'bck 'dcgg]V`Y'hc'YbUV`Y'; GA #'; 'gY`YVM]cb'a Ybi ']b'G9''; 'd\cbYg'f!?*\$\$ž'?*\$, ž"""Ł" :]I YX'gca Y'Vi [g']b'Dc`]g\ 'hfUbg`Uh]cb" $H\ Y'7i\ ghca\]nY':\ G'Vi\ hhcb'k\ Ug'a\ cj\ YX'hc':\ Ug\ '5FA'dU[\ Y''$:]I YX cVVVUgg]cbU`? * \$\$#? * \$, #K - \$\$ Vcch]b['Vi [" I dXUhYX'K))\$]#K))\$W#K *\$\$]``Ub[dUW_']bZc" I dXUhYX 'H57 ``]gh'Zcf '? +\$\$]" J Yfg]cb + "\$\$ fl%+h\ Bcj Ya VYf &\$\$) Ł. 5bmk Umž'h\]g`]g`h\Y`ZUghYgh`k UmcZ`i b`cW_]b[`h\YgY`d\cbYg`Uj U]`UV`Y`cb`h\Y`a Uf_Yh' H\Y`X]fYWh`CHD#; 8: G`W\YW_YbUV`Y#X]gUV`Y`Zi bWh]cb`g\ci `X`VY`a i W\`a cfY`[YbYf]W!`bck `]h`\UbX`Yg`G\Ufd J +\$' G<#J - \$' G<#GL' %' #GL, ' ' 'Z]fa k UfYg hcc"

Gi ddcfh'Zcf'i b`cW_]b['Ubm'7=8'5FA'd\cbYg'k]h\ 'VUgYVUbX'W\]d =8g'\$I +\$\$\$z'\$I +%\$\$z'\$I, \$\$\$'UbX'\$I, \$(\$"'9j Yb K - \$\$'d\cbYg" Giddcfh7zcf7ZUg\]b['Ubm17=8'5FA'd\cbYg'k]h\ 'VUgYVUbX'W\]d =8g'\$I+\$\$\$z'\$I+\$\$\$z'\$I,\$\$\$'UbX'\$I,\$(\$k]h\cih VX Ub[]b['df]a Ufm'VYfh]Z]VWhY" $B\ Yk\ ??\ *\$\#?\ *\$,\ 'hY\ ghd\ c]b\ h'\ d]W \ fY\ 'UXXYX\ 'hc\ 'h\ Y\ \Y\ d\ 'Z]\ Y''$

5 'K)) \$ 'hYghdc]bh'd]WhifY 'UXXYX'hc'h\Y'\Y`d'Z]`Y" $5 \text{ K * \$\$'hYghdc]bh'd]WhifY'UXXYX'hc'h\Y'\Y'd'Z]`Y''}$ $H\Y$ ZUgh@"; ib`cW]b[ZIbWi]cbU`]hmj]UZ]fak UfYdUhW.]b[k UgYIhYbXYX hc giddcfhgca Y@ I,))\$Z]fa k UfYg" $5XXYX"gi~ddcfh"Zcf"`cV\underline{M}]b[~CHD"UfYU"]b"@,~"~;~"UbX"G\Ufd"~;~"Ya~dhm!VcUfXg"$ 5XXYXÜb cdh]cb hckf]hYbYk '6`iYhcch\'A 57`UXXfYgg`hcFG5!dfchYWMYX'5FA!VUgYX`G9`d\cbYg"≔h`]g`UjU]`UV`Y Ua cb[A cX]Zm; 8: G cdh]cbg" FG5 Vcchcdh]cbg \ Uj Y VYYb a cX]Z]YX" 7Yfh]Z]WUhY fYWcjYfmZibWh]cb idXUhYX" $FYdU]f'9FCA'ZIbWh]cbU`]hmidXUhYX'hc'fYZYWh'K)) $`UbX'K *$$'d\cbYg''6ch\ Vfck b'7=8(-'UbX'fYX'7=8(-'d\cbYg''6ch')) $$(-'UbX'fYX'7-8)(-'UbX'fXX'7-8)(-'UbX'fYX'7-8)(-'UbX'fXX'7-8)(-'UbX'f$ UfY gi ddcfhYX bck " :]I YX a]bcf Vi []b F G5 WbZ][i fUh]cb UbU mg]g WbXY" IdXUhYX 7ighca]nY: GZibWh]cb" I dXUhYX 'H57 '`]gh'Zcf'K *\$\$]ž'>' \$\$U'UbX'?+)\$]" Gca Y'WXUb[Yg']b'7\]bYgY'hfUbg`Uh]cb" JPPOR J Yfg]cb '* "%\$ fl) h\ Bcj Ya VYf &\$\$) Ł. 5XXYX'gi ddcfh'Zcf'i b`cW_]b['>&%\$'d\cbYg" H\YFYWU`W87F7g'Vi hhcb k Ug'YbUV`YX Zcf'>&%\$ VmU'a]ghU_Y" $Bch]WY. \ D`YUgY`dfYZYf`i\ g]b[\ `fYUX]b[\ `WcXYg`hc`X]fYWh`i\ b`cW_]b[\ `k\ \ Yb`dcgg]V`Y''$ J Yfg]cb '* "\$) 'f&, h\ 'C Whc VYf '&\$\$) Ł. K)) \$ Vi] h]b W ghca]nUh]cbg]gh i dXUhYX" :]I YX Ub]ggi Y k]h\ i b`c\W_]b['gca Y G]Ya Ybg 7* & d\ cbYg" :]IYX`U`Vi[]b`X]fYVM`CHD#;8:G`VX`YW_X]gUV`Y#YbUV`Y`ZIbVM]cb`fY[UfX]b['@, ''; 'd\cbYg'k]h\ 'c`X`Z]fak UfYg'' J Yfg]cb '* "\$('fl&* h\ 'C Whc VYf'&\$\$) Ł. $5XXYX "gi ddcfh"Zcf"; 8: G"]XYbh]hmWX Ub["]b["Zcf"7=8\%+"@,""; "d\cbYg""fBch"Uj U]`UV`Y"]b"@Y[U``9X]h]cbL \\ 5XXYX "gi ddcfh"Zcf"; 8: G"]XYbh]hmWX Ub["]b["Zcf"7=8(%"UbX"7=8(&"@,""; "d\cbYg"j]U'hYghdc]bh"fBch"Uj U]`UV`Y"]b \\ [3xyyx] "gi ddcfh"Zcf"; 8: G"]XYbh]hmWX Ub["]b["Zcf"7=8(%"UbX"7=8(&"@,""; "d\cbYg"j]U'hYghdc]bh"fBch"Uj U]`UV`Y"]b \\ [3xyyx] "gi ddcfh"Zcf"; 8: G"]XYbh]hmWX Ub["]b["Zcf"7=8%+"@,""; "d\cbYg"]bh"fBch"Uj U]`UV`Y"]b \\ [3xyyx] "gi ddcfh"Zcf"; 8: G"]XYbh]hmWX Ub["]b["Zcf"7=8%+"@,""; "d\cbYg"]bh"fBch"Uj U]`UV`Y"]b \\ [3xyyx] "gi ddcfh"Zcf"; 8: G"]XYbh]hmWX Ub["]b["Zcf"7=8%+"@,""; "d\cbYg"]bh"fBch"Uj U]`UV`Y"]b \\ [3xyyx] "gi ddcfh"Zcf"; 8: G"]XYbh]hmWX Ub["]b["Zcf"7=8(%"UbX"7=8(%"@,""; "d\cbYg")]U'hYghdc]bh"fBch"Uj U]`UV`Y"]b \\ [3xyyx] "gi ddcfh"Zcf"; 8: G"]XYbh]hmWX Ub["]bh"fBch"Uj U]`UV`Y"]b \\ [3xyyx] "gi ddcfh"Zcf", 8: G"]XYbh]hmWX Ub["]bh"fBch"Uj U]`UV`Y"]b \\ [3xyyx] "gi ddcfh"Zcf", 8: G"]XYbh]hmWX Ub["]bh"fBch"Uj U]`Uy`Y"]bh"fW Ub["]bh"fBch"Uj U]`Uy`Y"]bh"fW Ub["]bh"fW Ub["]bh$ @Y[U`'9X]h]cbŁ 5XXYX`gi ddcfh`Zcf`; 8: G`]XYbh]hm'VXUb[]b['Zcf`7=8&('G\Ufd'' ; 'd\cbYg"'fBch'Uj U]`UV`Y`]b`@Y[U`'9X]h]cbŁ 5XXYX ZUgh X]fYWh C HD#; 8: G WX YW_X]gUV Y#YbUV Y ZI bWh]cb Zcf 7=8%+27=8(%UbX 7=8(&@, "; d\cbYg UbX Zcf $5XXYX "gi \ ddcfh" Zcf" YI \ d`] W] h"fYghcf] b[\ "cZ"; \ 8: G"] XYbh] hm''$:]I YX U Z Ug\]b['Vi ['h\ Uh'WUi gYX I , ' , \$ 'j %\$5 'Z]fa k UfYg'hc 'VY'i b`c\\\ YX ']b\\cffY\\n'm' 5bch\Yf'W\Ub[Y'hc'FG5'dfchYWh]cb'i b`cW_]b['WcXY" $G'[[\hm]bWYUgYX']YfVcg]hmcZ'; 8: G'UWWYgg']b]h]U']nUh]cb'Yffcf'\UbX`]b['WcXY'']$ J Yfg]cb '* "\$' 'fl&* h\ 'C Whc VYf '&\$\$) Ł. ? * \$\$#? * \$, 'hYghdc]bh'd]Whi fYg'i dXUhYX" $A \]bcf'WX \ Ub[\ Y'fY`UhYX'hc'i \ b`cW_]b[\ 'FG5'dfchYWf]cb'cZ'CHD'7=8\&-\ 'd\ cbYg'k \]h. \ 'VUgYVUbX'WX]d'=8g'\$I\ , \ \$\$\$'UbX'hc'i \ b'cW_]b[\ 'FG5'dfchYWf]cb'cZ'CHD'7=8\&-\ 'd\ cbYg'k \]h. \ 'VUgYVUbX'WX]d'=8g'\$I\ , \ \$\$\$'UbX'hc'i \ b'cW_]b[\ 'FG5'dfchYWf]cb'cZ'CHD'7=8\&-\ 'd\ cbYg'k \]h. \ 'VUgYVUbX'WX]d'=8g'\$I\ , \ \$\$\$'UbX'hc'i \ b'cW_]b[\ 'FG5'dfchYWf]cb'cZ'CHD'7=8\&-\ 'd\ cbYg'k \]h. \ 'VUgYVUbX'WX]d'=8g'$I \ , \ $\$\$$ \$1, \$(\$" I dXUhYX X]fYWhCHD#; 8: G'VX YVV fYa cj U` WcXY hc gi ddcfh'c`XYf Z]fa k UfY j Yfg]cbg" $\label{eq:Gamma-def} \textbf{G`][\hmcZ'Udd`YhYffcf'\UbX`]b[\WcXY'']} \\$ $5XXYX Z bWh]cb Zcf ZUghfYghcf]b[Z]fa k UfY CHD#; 8: G WX YW " \\ 5XXYX Z i ddcfh Zcf Z Ug\]b["dZV fIDUfh]U`:]fa k UfY 6UW i dŁ Z] Yg h\ Uh UfY WYUhYX VYZcfY Yj YfmdUfh]U`: 5FA A UfY 6UW i dŁ Z] Yg h\ Uh UfY WYUhYX VYZcfY Yj YfmdUfh]U`: 5FA A UfY 6UW i dŁ Z] Yg h\ Uh UfY WYYUhYX VYZcfY YJ YfmdUfh]U`: 5FA$ $Z]fa\ k\ UfY`a\ cX]Z]VWh]cb`fK]fYVW`@,\ 'i\ b`cW_]b[\ 'cf`CHD#;\ 8:\ G`VX\YW_`X]gUV`]b[\ \#YbUV`]b[\ Ł"]$:]I YX U Vi [']b 'Dc`]g\ 'hfUbg`Uh]cb" $\label{eq:continuous} J\ Yfg]cb\ ^*\ "$\&\ fl\&(\ h\ `C\ VMcVYf\ \&\$\$)\ Ł.$:]I YX 'Ub ']ggi Y 'k]h\ 'G\ Ufd 'J +\$' G< 'd\ cbY 'hmdY 'Ui hcXYhYWh]cb" $:]I \ YX`U`Vi \ [\ fY[\ UfX]b[\ `Z`Ug\]b[\ `G\ Ufd`J - \$' \ G< `d\ cbYg`Vm`WfhU]b`Z`Ug\ `Z]`Yg"$ 5bch\Yf'a]bcf'i dXUhYg" =bghU``Yf'i dXUhYX" J Yfg]cb '* "\$%'fl&(h\ 'C Whc VYf'&\$\$) Ł. :]I YX Ub]ggi Y k]h\ G]Ya Ybg 7 * &" J Yfg]cb '* "\$\$ 'fl&(h\ 'C Whc VYf '&\$\$) Ł. 5XXYX Vcchgi ddcfh'Zcf'G]Ya Ybg'7*&'fl7=8&+Ł" $5XXYX "gi ddcfh" Zcf" Z Ug \]b["cf]["]bU "GGK" Z]" Yg"]bhc "5JF! VUgYX" d \ cb Yg" ffY" [""G] Ya Ybg" 7* \& L"" | Left | Left$ 5XXYX gi ddcfh'Zcf'X]fYV\n'i b`c\w_]b['G]Ya Ybg'7* &'j &) ž'j &* ž'j &+ 'UbX'j &, "
5XXYX gi ddcfh'Zcf'fY`c\w_]b['G]Ya Ybg'7* &'j &) ž'j &* ž'j &+ 'UbX'j &, " N) & Vi] h!]b W ghca]nUh]cbg]gh i dXUhYX"

Ch\Yf'W\Ub[Yg']b'Vi]`h!]b'W ghca]nUh]cbg" 5XXYX`; 8:G`]XYbh]hm'W\Ub[]b['Zcf'5FA`d\cbYg'k]h\`VUgYVUbX'W\]d`=8g`\$I+\$\$\$z`\$I+%\$\$z`\$I,\$\$\$`UbX`\$I,\$(\$" flBch'Uj U]`UV`Y']b'@Y[U`'9X]h]cbŁ 5XXYX ZUghX]fYWhCHD#; 8: G'WXYW_fYa cj U`Zi bWh]cb Zcf'bYk '5FA 'G9'd\cbYg"'flBch'Uj U]`UV`Y']b'@Y[U`'9X]h]cbŁ $A \ [bcf'WX \ Ub[Y']b'Z]'Y'Xck \ b`cUX'ZI \ bWM]cbU`]hm''=hg\ ci`X'WcdmYa \ dhmX]fYWhcf]Yg'hcc" \\ I \ dXUhYX'H57``]gh'Zcf'K)) $]ž'N) & $]ž'K , $$]ž'Z' $$]ž'Z' + $$]ž'G \ Ufd'J + $'G < `UbX'J - $'G < "UhX'J - $'G$ FYa cj YX`dcgg]V]`]hmhc`W\Ub[Y`7=8(%`UbX`7=8(&`d\cbYg`hc`Vfck b`Wc`cf`Xi Y`hc`U`gUZYhmfYUgcb" 5XXYX Vcchigi ddcfhiZcf '>&%\$" 5XXYX gi ddcfh'Zcf'Z'Ug\]b['>&%\$" $H-\ 'X] \textit{Wh}] cb \textit{Uf}] \textit{Yg} \cdot \textit{fYa} \ cj \ \textit{U}^{\ \ \ \ \ } \textit{Ug} \cdot \textit{VYYb} \cdot \textit{gYdUfUhYX} \cdot \textit{Zf} ca \ \ ``Ub[i \ \textit{U[Y'Z]}`Yg' \textit{fYa} \ cj \ \textit{U}^{\ \ \ \ } \textit{Z} b \ \textit{Wh}] cb''$ 5XXYX`X]gd`Um]b['cZ'ZUg\ 'WYfh]Z]WUhY 'bUa Y'k \]`Y'Vcch]b['bYk '5FA 'd\cbYg" =bhYfbU`: K 'XUhUVUgY'YI hYbXYX" $\label{lem:harmonic} $H\Y'K$ f]hY'hc'CHD'ZI$ bVW]cb'bck'U``ck g'cfX]bUfmi gYfg'hc'VXccgY'Zfca'a cfY'7=8g''$ F Y YUgYX G\ Ufd 'J - \$&G< 'hc 'GL , %' 'Wtbj Yfg]cb 'Z Ug\ 'Z] Y" F Y YUgYX 'G\ Ufd 'J - \$' G< 'hc 'GL , ' ' 'Wtbj Yfg]cb 'Z Ug\ 'Z] Y" FY'YUgYX'G\Ufd'J - \$' G< hYgha cXY'Z'Ug\ Z]'Yg" $5XXYX`Vcch`gi\ ddcfh`Zcf`7=8(-`d\cbYg`k]h\`VUgYVUbX`V\X]d`=8g`$I+$$$`UbX`$I+\%$$`ff?*$, ž`Yh\NE''$ $5XXYX^{8}$ fYWhi b`cW_'Zcf'6fck b'7=8(-'d\cbYg" 5XXYX @cW_hcbYhkcf_Zcf6fckb7=8(-d\cbYg" 5XXYX FYUX]b['WcXYg'Zfca '6fck b'7=8(-'d\cbYg" 5XXYX GUj Y gYW f]hmZcf 6fck b 7=8(- 'd\cbYg" 5XXYX FYghcfY gYW f]hmZcf 6fck b 7=8(- 'd\cbYg" 5XXYX gi ddcfh Zcf Vcch]b['7=8(- 'd\cbYg ffYX UbX V i Y j]U HD Zcf bck Ł" 5XXYX gi ddcfhZcfZUg\]b['6fck b'7=8(- 'd\cbYg" 5XXYX'gi ddcfh'Zcf'Z'Ug\]b['FYX#6`i Y'7=8(-'d\cbYg'j]U'HD" 5XXYX'gi ddcfh'Zcf'W\Ub[]b[FG5'W\fh]Z]\WbhY'W\cf'cZ'7=8(- 'd\cbYg'f\mi g]b['HD'Zcf'bck \tau" 5'Vfck b'7=8(- 'hc fYX'7=8(- 'W\text{bi yfg]cb'Z]'Y'Zcf'?*\$, '\Ug'VYYb']bWi XYX'hc \Y`d"=h']g'bch'bY\W\fgUfmhc'fYZ'Ug\d\cbY'Z]fa k UfY'UZhYf'i g]b['h\]g'Z]'Y" h\Y'8UhU#5FA`Z'Ug\`VUW_i dg`Zc`XYf"'Gi ddcfhYX'UfY'h\YgY'a cXY`g.`I,%' \$žI,%',žI,%,\$žI,''\$žI,'*\$`UbX 1,',\$" 7nYVX ``Ub[i U[Y'ghf]b[g'i dXUhYX"]Dc`]g\ ``Ub[i U[Y`ghf]b[g'i dXUhYX" < Y`d Z]`Y`i dXUhYX`! UXXYX`G]Ya Ybg`7*&d]bci hž`gca Y`@, ''; 'gYWfYh'WcXYgž`YhW' J Yfg]cb') "\$&'fl%gh'GYdhYa VYf'&\$\$) Ł. =a dcfhUbhˈbch]WY. 8c bchʻUhhYa dhˈhc Wcbj YfhʻCHD 7=8' + d\cbYgʻhc Ubmch\Yfʻ7=8° Ch\Yfk]gY mci k]``bch'VY UV`Y hc Vcch'h\Y'd\cbY Ubma cfY"'7fi]gYf XcYg bch'U``ck 'mci 'hc Xc'h\Uhz Vi h'ch\Yf gcZhk UfY'a Um' 7fi]gYf`]g`bck 'Uj U]`UV`Y`]b`9b[`]g\ž7\]bYgYž7nYW\ž=bXcbYg]UbžAU`UnžDc`]g\žFi gg]UbžG`cj U_ 'UbX'Gk YX]g\ `Ub[i U[Yg" $:]I \ YX \ cbY \ VX \]W\underline{\ \ Yb! \ UbX! \ Y[\ [\ \ 'g]hi \ Uh]cb \ k \]h \ \ I \ b \ cw\underline{\ \ \ }FG5"$:]IYX`cbY`:G!UWWYgg`Vi[`fY[ŪfX]b[`?+)\$#K,\$\$`d\cbYg`h\Uh`k Ug`]bhfcXiWYX`k]h\`jYfg]cb`)"\$\$" :fca bck cbh\Y:cfaUh;8:Gcdh]cb]gdfchYWMYXVmUdUggkcfX~?=@@H<9D<CB9~" J Yfg]cb') "\$%'fl' %gh'5i [i gh'&\$\$) Ł. I dXUhYX 'H57 ``]gh'Zcf 'K , \$\$] 'UbX '>&%\$]" FG5 i b`cW]b[Zi bWh]cbU`]hmg`][\ h`ma cX]Z]YX" J Yfg]cb') "\$\$ fl' \$h\ 5i [i gh'&\$\$) Ł. 5XXYX ZI bWh]cb Zcf YUg]Yf fYd`UW]b['cZ'Z'Ug\ 'WYfh]Z]WuhYg" 5 ``]gh'cZ'Wta dUh]V Y 'WYfh]Z]WuhYg]g X]gd`UmYX]b 'h\ Y Wta Vc Vcl "cWUhYX VY ck 'h\ Y F Yd \ UWY 'WYfh]Z] WUhY 'Vi hhcb" BchY. @UhYgh'9FCAg'fYei]fY'mci 'hc fYghcfY'h\Y'ZUg\ WYfh]ZJWUhY'VUW_ hc]hg'cf][]bU ghUhY hc U`ck 'h\Y'd\cbY'hc VY hi fbYX cb" I dXUhYX`H57``]gh`Zcf`?+) \$]ž`K, \$\$Wž'J*\$\$]ž`?*\$,]ž`?*\$\$Vž'>'\$\$]ž`>'\$\$Vž'H&-\$]`UbX`H&-\$W K , \$\$ Vi]`h!]b Wighca]nUh]cbg``]gh'i dXUhYX" A]bcf $^{7}=8\%+!fY^{UhYX}WUb[Yg"$ $K f h Y V U b X c W Z b V h c b U h m g [\ h m a c X] Z] Y X "$ 5XXYX gi ddcfhZcfZUg $\]$ b[GUfdJ-G $H\Y'i\ gYf']bhYfZUWY'\Ug'VYYb'a\ cX]Z]YX''$: `Ug\ 6HZi bWh]cb \ Ug`VYYb gYdUfUhYX Zfca : `Ug\ 5FA" 5XXYX fYUX]b['WcXYg'Zcf'7=8' + 'd\cbYg" $F \ Y \ W \ j \ Y \ f' \ 7 \ Y \ fh \] \ Z \ b \ W \] \ cb \ bck \ \ 'gi \ ddc fhg' \ 7 = 8' + 'd \ cb \ Y g''$ $BchY.~5b~UhhYa~dh~hc~ghUfh~U~7=8'~+~d\cbY~WcbhU]b]b[~k~cf_]b[~Z]fa~k~UfY~]b~U~fYWcj~Yfma~cXY~k~]``~ZU]^{-n}$

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IPPOR
 =a d`Ya YbhYX'I b`c\<u>W</u> 'F G5 'Zi b\\f\]cb'\Zcf'7=8' + 'd\cbYg"
H\YI b`cW_FG5 Vi hhcb g\ci `X'bchVY'YbUV`YX']b fYWtj Yfma cXY"
: `Ug\ Yf`Zi bWh]cbU`]hm'a cX]Z]YX`Zcf`7=8' * `UbX`7=8' +"
5XXYX 7ighca]nY:GZibWh]cbZcf7=8'+"
5XXYX Hi fb WWa YfU gci bX cb#cZZ Zi bWh]cb Zcf 7=8' +"
5XXYX A cX]Zm; 8: G Zi bWh]cbU ]hm Zcf 7=8' +"
5XXYX K f]hY hc; 8: G Zi b Wh]cb U`]hm Zcf 7 = 8' + "
5XXYX GUj Y gYW f]hm Zcf 7=8' +"
5XXYX F YghcfY gYW f]hmZcf 7=8' +"
5XXYX'8]fYWhii b`cW_'Zcf'7=8' +"
5XXYX @cW_hcbYhkcf_ Zcf7=8'+"
5XXYX'FYUX'; 8: G'ncbYg'Zcf'7=8' +"
5XXYX'I d`cUX'Z]`Yg'hc': G'Zcf'7=8' +"
5XXYX @Ub[i U[Y cdYfUh]cbg Zcf 7=8' +"
5XXYX'K f]hY'hc'gYW/f]hmncbY'Zcf'7=8' +"
@cW_CHDUfYUbck giddcfhg7=8'+"
5XXYX FYdU]f '9FCA 'ZibWh]cb 'Zcf'7=8'+'d\cbYg"
BchY. FYZUg\ 'h\ Y'a U]b 'Z]fa k UfY'k \ Yb'i g]b[ 'h\ ]g'Zi bWh]cb'Zcf'Vfck b'7=8' +"
5XXYX': cfa Uh'; 8: G'Zi bWh]cb"
5XXYX FYacjYFG5 ib`cW_hfuW/gZibWh]cb"=h`]g``cWUhYX`Uacb[`AcX]Zm;8:G`cdh]cbg"
I bi gYX WcXY fYa cj YX"
< Y`d'Z]`Y'g`][ \ h`m'i dXUhYX"
J Yfg]cb '( " $ fl%( h\ '>i `m'&$$) Ł.
?*$$#J*$$`Vi ]`h!]b`W\ghca ]nUh]cbg``]gh`i dXUh\YX"
?*$$#J*$$`Z`Ug\`Z]`Y`\UbX`]b[`]a dfcj YX"
<Y`d`Z]`Y`i dXUhYX'! ?*$$#J*$$``Ub[i U[Y`dUW_`]bZc`UXXYX"
5XXYX gi ddcfh'Zcf'X]fYWh'\UbX`]b[ 'cZ'V`i Y'7=8' * 'd\cbYg'flfYWtj Yfma cXY bch'fYei ]fYX Ubma cfYŁ"
A ]bcf'W\ Ub[Yg']b'W\ck\Y'U\W\Ygg]b['\h\Y': G'cZ'Vfck b'7=8' \star 'd\cb\Yg''
=bWfYUgYX'j YfVcg]hmcZ; 8: G'Yffcf'\UbX`]b['WcXY"
7cbj Yfg]cb 'hc 'Vfck b '7=8' * 'Zcf 'VUgYVUbX 'W\]d =8g'$I , $$$ 'UbX '$I , $($ \ Ug \ VYYb \ cdh]a ]nYX" 7cbj Yfg]cb 'hc 'Vfck b '7=8' * 'Zcf \ VUgYVUbX \ W\]d '=8g'$I +$$$ 'UbX \$I +\%$$ \ Ug \ VYYb \ cdh]a ]nYX" =bhfcXi \ W'X \ XYhY\W]cb 'cZ \ XUhU \ Vi g ']bhfcYfYb\W'g 'Zcf'@, 'd\ cbYg"
5Vci hlVcl ]bZcfa Uh]cb g`][\h`mi dXUhYX"Bck '%+$ d\cbY hmdYg'UfY gi ddcfhYX"
< Y`d`Z]`Y`7=8`]bZcfa Uh]cb`i dXUhYX"
5XXYX ` GdYV \c "i" \c "h\c "i" \c "h\c "i" \c "h\c "i" \c "i" 
H\Y: cfWYFG5 fYWtj YfmWta Vc!Vcl bck X]gd`Umg`a Ubi ZUWhi fYfbUa Yg`hcc"
A \ bcf'VX \ Ub[\ Yg']b'I ="
J Yfg]cb '( "&( 'fl%$h\ '>i `m'&$$) Ł.
\label{thm:condition} 5``ck\ YX'X]fYWhZUg\ ]b[\ cZ'bcfa\ U``Z'Ug\ Yg']bfYWtj\ Yfma\ cXY'Zcf'7=8(\%'UbX'7=8(\&''bcfa\ U``Z'Ug\ Yg']bfYWtj\ Yfma\ cXY'Zcf'7=8(\&''UbX'7=8(\&''bcfa\ U``Z'Ug\ Yg']bfYWtj\ Yfma\ cXY'Zcf'7=8(\&''UbX'7=8(\&
7cbj Yfg]cb 'hc 'Vfck b '7=8' * 'fYei ]fYg'd\cbY 'UbU'mg]g'dYfZcfa YX"'Ch\Yfk ]gY ']h'X]gd`Umg'Ub 'Yffcf'a YggU[ Y"
A ]bcf VX Ub[ Yg ]b ? * $$#J * $$ Zi bVMjcbU ]hm"
5XXYX'gi ddcfh'Zcf'G* $$]#G* $$W#K * $$U"
Gca Y'Udd`Yhg'i dXUhYX"
6cch]b[ WcXY a cX]Z]YX"
                                                                                                                                                        JPPDRT
  `Ug\]b[ 'WtXY'a cX]Z]YX"
: `Ug\ 'Z]`Y 'cdYb 'X]U`c[ 'WcXY'i dXUhYX"
: ] Y! gmghYa 'Zi b\\[ b\\[ h] cbU \] hm\Zcf\Vfck b\ 7=8' * 'd\cbYg\fYybUV\YX'' : ]I\ YX\ gca\ Y\ ]ggi\ Yg\ k\ ]h\ \ 'dfchchmdY\ 7=8' * 'd\cbYg''
: ]IYX'U'Vi [']b fYgYh`]ZY!h]a Yf'Zi bWh]cbU`]hm'
IdXUhYX'H57`]gh'Zcf'@, 'I,',$"
H\Y'Hi fb'cZZ'd\cbY'Vi Hhcb'g\ci `X'VY'YbUV`YX'Zcf'i b]XYbh]Z]YX'bYk '5FA'd\cbYg"
H\YFYdU]f'WYfh]Z]WUhY'Vi hhcb'k Ug'X]gUV`YX']b'gca Y'WUgYg"
7Ua YfU'ZcWyg'gcibX']g'bck 'UZZYWMYX Vmh\Y'7Ua YfU'gcibX'cb#cZZZibWM]cb'hcc"
5XXYX gi ddcfh Zcf Z Ug\]b[ Vfck b 7=8% 'd\cbYg fl9A DŁ"
5XXYX'd\cbY'hmdY'Z]`hYf"
J Yfg]cb ( "&$ fl&- h\ '>i bY '&$$) Ł.
5XXYX gi ddcfh Zcf Wbj Yfh]b[ ?+) $ d\cbYg hc K , $$"
5XXYX gi ddcfh Zcf N) &$]#N) &$W
=bWfYUgYX`gUZYhmik \Yb`WcbjYfh]b[`fYX`7=8' * `d\cbYg`hc`Vfck b`7=8' * "
G\Ufd"; 'ZUg\]b['gdYYX'j]Ú':][\hYf#7fi]gYf'WWV`Y'g`][\h`m]a dfcj YX"
H\Y'a U]b YI YW hUV'Y UbX'\Y'd Z]Y'UfY bck 'ghcfYX'ci hg]XY'h\Y']bghU`'Yf"'J Yfg]cb '( "%) 'fl&( h\ '>i bY '&$$) Ł.
: ]I YX cbY Vi [ ']bhfcXi WYX ]b h\ Y dfYj ]ci g j Yfg]cb"
```

J Yfg]cb '("%('fk' fX'>i bY '&\$\$) Ł.

=bghU``Yf`i dXUhYX" =h']g'dcgg]V`Y`hc`i gY`N, \$\$`Z]`Yg`Zcf`J, \$\$#J, \$&G9`d\cbYg`X]fYWh`m' $FYUX]b[\ 'd\cbY`Wfh]Z]WUhY`WUi gYX`dfcV`Ya g`k \]`Y`Z`Ug\]b[`Wca dcg]hY`Z`Ug\ `Z]`Yg`j]U`9D=`I G6"$

J Yfg]cb ("%' fl&%gh >i bY &\$\$) Ł.

 $5XXYX'gi\ ddcfh'Zcf'Wfcgg!\ 7=8\ 'Z'Ug'\]b[\ 'cZ'7=8\ (\%'UbX'7=8\ (\&'d\ cbYg'k\]h'\ ci\ h'hYghdc]bh''\ A\]bcf'Wk\ Ub[\ Y']b'l ="$

J Yfg]cb '("%& fl&\$h\ '>i bY '&\$\$) Ł.

J Yfg]cb '("\"ff\, h\ '>i bY '&\$\$) Ł.

 $?+) \$]\#8+) \$]`Vi]`hi]b`Wighca]nUh]cbg``]gh`i dXUhYX"\\?+) \$]\#8+) \$]``Ub[i U[Y`dUW_]bZc`i dXUhYX"\\6i]`hi]b`9F CA`fYWcj YfmZi bWh]cb`Zcf`?+) \$\#8+) \$\#K , $\$`d\cbYg`]a dfcj YX"'=h`g\ci `X`VY`dcgg]V`Y`hc`Z`Ug\`a cfY d\cbYg`Uh`cbWf`j]U`9D='I G6`hcc" 7\]bYgY``Ub[i U[Y`ghf]b[g`i dXUhYX" <math display="block">< Y`d`Z]`Y`YI hYbXYX`VmU`XYgWf]dh]cb`cZ`7=8'*`d\cbY`cdYfUh]cbg"\\6fck b`7=8'*`hc`fYX`7=8'*`Wcbj Yfg]cb`Z]`Y`Zcf`?+) $\#8+) $\#K , $$`\Ug`VYYb`]bWi XYX`hc`\Y`d"'=h`]g`bch'bYWfggUfm hc`fYZ`Ug\`d\cbY`Z]fa k UfY`UZhYf`i g]b[h\]g`Z]`Y"$

J Yfg]cb '("% fl%' h\ '>i bY '&\$\$) ž'VYhU'j Yfg]cbŁ.

 $5XXYX "gi ddcfh" Zcf" fYX "7=8" * "hc" Vfck b" Wcbj Yfg] cb" flk]h\ci h"hYghdc] bhz" cZ'Wci fgYL" ?+) $\#8+) $\#K , $$ "fYX "7=8" * "d\cbYg" UfY bck "Z ``mgi ddcfhYX"$ 5XXYX I b`cW_FG5 Zi bWh]cb ZcffYX 7=8' * 'UbX 7=8&('d\cbYg" $5XXYX'I d`cUX'G: 5'Zi bWh]cb'Zcf'fYX'7=8'*'d\cbYg''$ 5XXYX K f]hY fUk : G Zi bWh]cb Zcf fYX 7=8' * d\cbYg" 5XXYX 7i ghca]nY: G'Zi bWh]cb 'Zcf'fYX'7=8' * 'd\cbYg" 5XXYX`@Ub[iU[Y`cdYfUh]cbg`ZibWh]cb`Zcf`fYX`7=8'*`d\cbYg" 5XXYX`Id`cUX`Z]`Yg`hc`:G`ZibVMjcb`Zcf`fYX`7=8'*`d\cbYg" 5XXYX 7Ua YfU gci bX cb#cZZZi bWhjcb Zcf fYX 7=8' * 'd\cbYg" $5XXYX`GUj\ Y`gYWVf]hm`Zi\ bVM]cb`Zcf`fYX`7=8'\ *`d\cbYg"$ 5XXYX FYghcfY gYVV f]hmZi bWh]cb Zcf fYX 7=8' * d\cbYg" 5XXYX FYUX; 8: GncbYg ZibWhjcb ZcffYX 7=8' * d\cbYg" 5XXYX'K f]hY'hc'; 8: G'Zfca 'Z]`Y'Zi bVM]cb'Zcf'fYX'7=8' * 'd\cbYg" 5XXYX gi ddcfh Zcf VUW_i d cZ VUhhYfmWU`]VfUh]cb ncbY cZ bYk '5FA 'd\cbYg" 5XXYX`gi ddcfh`Zcf`VUW_i d`cZ`X]gd`Um\W`]VfUh]cb`ncbY`cZ'bYk `5FA `d\cbYg" 5XXYX`giddcfh`Zcf`VUW_id`cZ`UiX]c`WW`]VfUh]cb`ncbY`cZ`bYk`5FA`d\cbYg" $5XXYX "gi ddcfh" Zcf" VUW_i d"cZ" fUX]c" WU`] VfUh]cb" ncbY" cZ"bYk "5FA" d\cbYg"$ 6i]`H:]b`Wighca]nUh]cbg``]gh`idXUhYX`UbX`YIhYbXYX`Vm`>'\$\$]`XUhU" =bghU``Yf`idXUhYX"'9D='IG6`Xf]jYf`]bWiXYX`hc`U``ck`ZUghYf`Z`Ug\]b[`cZ`@, ''; ž`G\Ufd''; 'UbX`J,\$\$#N,\$\$#N%\$%\$ d\cbYg" 5XXYX'Ub'cdh]cb'hc'Z'Ug'ZUghYf'j]U'9D='I G6"5XXYX gi ddcfh7cf 9FCA fYWtj Yfm]b fYX#Vfck b 7=8' * ?+) \$#8+) \$#K, \$\$" J Yfg]cb ("\$& fl, h\ >i bY &\$\$) Ł. 5 'G\ Ufd 'J , \$%G< '; 8: G 'fY \ UhY X ']ggi Y 'Z]I YX" I dXUhYX H57 ``]gh Zcf @ I , ' ' \$"

_ J Yfg]cb '("\$%'fl, h\ '>i bY '&\$\$) ž'VYhU'j Yfg]cbŁ.

5XXYX YI dYf]a Ybhu`gi ddcfh'Zcf'G\Ufd'J, \$%G<" I dXUhYX Udd Yh'Zcf'G\Ufd'; 'd\cbYg" 5XXYX gi ddcfh'Zcf'Z Ug\ =8 '\$I, - \$: " 5XXYX gi ddcfh'Zcf'Z Ug\ =8 '\$I, - \%\$" :]I YX U Vi ['WUi g]b['gca Y Vi hhcbg'hc 'VY'X]gUV'Y

:]IYX`U`Vi[`WUig]b[`gcaY`Vihhcbg`hc`VY`X]gUV`YX`Zcf`@, `d\cbYg`ibXYf`WYfhU]b`WJfWiaghUbWYg''G\Ufd`WcbbYWhcf`d]WhifY`idXUhYX''

J Yfg]cb '("\$\$ fl+h\ '>i bY '&\$\$) Ł.

 $F\ Y\ Y\ UgYX\ d]bci\ h\ Zcf\ G\ Ufd\ J\ ,\ \$\&G<\ UbX\ J\ -\ \$\&G<\ d\ cbYg"\ =h\]g\]b\ h\ Y\ Y\ d\ Z]\ Y"$

5XXYX`8]fYWhii b`cW_'giddcfh'Zcf'G\Ufd''; '7=8&('d\cbYg" 5XXYX @cW_hc bYhgi ddcfhZcf G\Ufd '; '7=8&('d\cbYg" : cfWY FG5 fYWcj Yfmcdh]cbg bck]bWi XY 7=8&(ž7=8(% UbX 7=8 (& " 5XXYX X]gd`Um]b[cZZUg\ a Ubi ZUWi fYf k \Yb Vcch]b[bYk 5FA d\cbYg J Yfg]cb'''-('fl)h'>ibY'&\$\$) ž'VYhU'j Yfg]cbŁ.5XXYX fYUX]b[WcXYgZfca 7=8(%fl@ I,%,\$LUbX7=8(&d\cbYgj]UhYghdc]bh" 7fcgg!7=8 ZUg\]b[YI hYbXYX hc 7=8%+#7=8(%#7=8(&" 7fi]gYf'Ui hca Uh]\W\`mdUh\\X\Yg'Z'Ug\`Z]\Yg'VmfYd\`U\\\b[' h\Y]f' FG5 \\Yfh]Z]\\Uh\"' | gU[Y.]h']g'dcgg]\'Y' hc Z'Ug\`I, % \$ \\Ym \\ I , %' , 'Z]fa k UfY" :]I YX 'Ub ']ggi Y 'k]h\ 'Z'Ug\]b['F * \$\$" 5XXYX gi ddcfhZcf 9F CA fYWtj Yfm]b j YfmfUfY Vfck b 7=8%* J , \$\$#N, \$\$" $\label{eq:localization} I \ dXUhYX \ 'H57 \ ``] gh \ Zcf \ 'H^* \ \% \ \check{z} \ : \) \ \$] \ \check{z} \ ?) \ \$^* \ V \ \check{z} \ ? \ + \ \$] \ \check{z} \ N, \ \$ \\ \] \ \check{z} \ ? \ + \) \ \$ [\ \check{z} \ ? \ + \] \ \S [\ \check{z} \ ? \ + \] \ \S [\ \check{z} \ ? \ + \] \ \S [\ \check{z} \ ? \ + \] \ \S [\ \check{z} \ ? \] \ \ \mathring{z} \ ? \] \ \ \mathring{z} \ ? \ ? \ \mathring{z} \ ? \ \mathring{z$ $< Y \ d \ Z \ Y \ i \ d X U h Y X$ J Yfg]cb" "- ' 'ff fX'>i bY'&\$\$) Ł. 9A A 5 'ga UfhWUfX'a i hYI ']g'bck 'fY`YUgYX'WcffYWh'm' : `Ug\ 'Z]`Y 'cdYb 'X]U`c['WcXY'i dXUhYX" 8i Y hc a UbmfYei Yghgž 8]fYWhi b`cW_UbX FYUX WcXYg k cf_ bck 'a i WX ZUghYf cb bYk '5FA 'd\cbYg" 7fi]gYf Wcg]b[']ggi Y Z]l YX" $I\ dXUhYX `H57``]gh'Zcf'N&\$\$\check{z}'N^*\,\$\$\check{z}'N^*\,\$,\ `UbX'@,\ \ I\ ,\ \%\$\$\check{z}'N^*,\ `UbX''$ J Yfg]cb'' "- & fl%gh'>i bYž'[Ua a U'j Yfg]cbŁ. ?' $$$^7=8 hYghdc]bhfYYUgYX"$ 6i]`h!]b 'W ghca]nUh]cbg'`]gh'Yl dUbXYX" :]I YX`Ub`]ggi Y`k]h\ \\UbX`]b[`N, \$\$`fYX`7=8' * " :]I YX'U'Vi [']b '9F CA 'fYdU]f 'Zcf'fYX'7 =8&- 'J , \$\$#N, \$\$" :]IYX'U'Vi['WUig]b['h\Y'8]fYWh'ib`cW_hc'VY'X]gUV`YX'Zcf'>&\$\$#N&\$\$#H%\$\$#5'*%, 'd\cbYg" $\label{eq:final_formula} F\ YdU]f\ '9F\ C\ A\ 'g\ U``\ 'bch'VY\ 'YbUV`YX\ ']b\ 'WffhU]b\ 'g]hi\ Uh]cbg''$ @ i b`cW]b[Zi bWh]cbU`]hmk Ug`X]gUV`YX`VmU`a]ghU_Y" 5 VUi XfUhY!fY`UhYX`a cX]Z]WUh]cb fY[UfX]b[@ 'd\cbYg"'J Yfg]cb'' "- %'fl%gh'>i bY`&\$\$) \(\! \). $FYk cf_{YX}'i b`cW_]b[#fY`cW_]b['cZ'fYX'7=8' * 'd\cbYg'j]U'hYghdc]bh''$ '5XXYX'U'Vi hhcb'Zcf'WbjYfg]cb'Zfca 'fYX'7=8' * 'hc'Vfck b'7=8' * 'fj]U'hYghdc]bhb" J Yfg]cb " "- \$ fl %ghA Um&\$\$) Ł. '5XXYX'gi ddcfh'Zcf'Zi ```gYWf]hmncbY'fYVi]`X`cZ'F) &\$#H' -#H*) 'd\cbYg'f]"Y"'d\cbYg'k]h\ 'VUgYVUbX'W\]d '=8') 7\$) UbX') 7\$* Ł"'H\fci [\ci h`Ugh'('mYUfg'bcVcXmY`gY'k Ug'UV`Y'hc'a UbU[Y']h"'=h'UddYUfYX'hc'VY'U`a cgh']a dcgg]V`Y"'6i h \YbWYZcfh\ 'mci 'WWb'fYdU]f'(''cW_g'WcgYX'cf'Ubmch\Yf'gcZhk UfY!fY`UhYX'dfcV`Ya" $"H\Y"FYX]fYWMG7F7"WXYW\underline{\ 'hc' ncbY'=="WXYW\underline{\ Vcl' \ \ Ug'VYYb'fYacj'YX"}"$ 'H\Y'GYW'f]hm=='dU[Y'k Ug'fYa cj YX'Ug']h'\Ug'VYYb'a UXY'gi dYfZi ci g'VmYl hYbX]b['h\Y'GYW'f]hm='dU[Y Zi bWh]cbU`]hm'hc F) &\$#H' - #H*) 'd\cbYg" `I dXUhYX`H57``]gh`Zcf`@, `I , %, \$ž?) \$\$]ž`?' \$\$]ž`J , \$&G< `UbX`J - \$&G<" `=bghU``Yf`idXUhYX"`=hYbUV`Yg`X]gd`Um]b[`\]XXYb#bcbdfYgYbh`XYj]WYg`]b`8Yj]WY`AUbU[Yf`ibXYf`K]bXckg &\$\$\$#LD" `CbWY`U[U]bž`gcaY`VUiXfUhY!fY`UhYX`acX]Z]WUh]cbg" 'A U`Um'UbX'G`cj U_ ``Ub[i U[Y'ghf]b[g'i dXUhYX" '8]fYWM'ib`cW_'ViHncb'kUg'YbUV`YX'Zcf'U``'@, "; 'd\cbYg'VmU'a]gHU_Y"'IgY'fYUX'W¢XYg']bgHYUX" `8YVi[`@c[`ZYUhifY`fY`YUgYX`hc`diV`]WV '< Y`d'Z]`Y'idXUhYX'!'UXXYX']bZc'cb'\ck'hc'VcchibVcchUV`Y'D-\$\$`gaUfhd\cbYg"</p>

'5b Yffcfa YggU[Y]g bck 'g\ck b'k \Yb hfn]b['hc Vcch'Ub']bWcffYWnmid[fUXYX'D-\$\$'hc U'D-%\$"'Gi W\d\cbY'\Ug'hc

'6cch'WcXY'a cX]Z]YX"

VY'VcchYX'ig]b['U'hYghdc]bh'WcbbYWhYX'hc'; B8"



'5 'ZYk 'W\Ub[Yg']b 'WcbZ][ifUh]cb 'UbU`mg]g'WcXY"

'A]bcf'a cX]Z]WUh]cbg'hc'h\Y'GYhh]b[g'k]bXck ž'a cgh`m'9A A 5 'ga UfhWUfX'fY`UhYX"'6Y'gi fY'hc'YbhYf'WcffYWh'D=B'Zcf mci f'9A A 5 'ga UfhWUfX"

'5XXYX'U'dcgg]V]`]hmhc'Vcch'5JF'VUgYX'd\cbYg'ghUfh]b['Zfca'F) &\$a'VmaYUbg'cZ'Ub'9AA5'gaUfhWUfX"

5XXYX gi ddcfh'Zcf 'W Ub[]b['d\cbY ``Ub[i U[Yg]b fYX '7=8' * 'd\cbYg fb' \$\$#?' \$\$#N, \$\$#?+) \$#K , \$\$#?*\$\$#J *\$\$#bYk '?+\$\$#bYk 'J , \$\$L'Vma YUbg'cZ'Ub '9A A 5 == 'ga UfhWUfX"

`5XXYX`Zi```gi ddcfh'Zcf`Vfck b`7=8' *`d\cbYg`fl>' \$\$#?' \$\$#N, \$\$#?+) \$#K , \$\$#?*\$\$#J*\$\$#bYk `?+\$\$#bYk J, \$\$Ł"

 $\label{eq:continuity} $$ Bck ']h']g'dcgg]V'Y'hc'gdYVJZmk \]W\'fYWcj\Yfm'Udd'Yh'flZcf'k \]W\'7=8£'hc'i gY'k \Yb'Vcch]b['h\Y'd\cbY''H\]g'ZYUhi fY g']bhYbXYX'hc'U'`ck 'FG5'i b`c\W_]b['j]U'hYghdc]bh''$

 $5XXYX'ZI bWh]cb'hc'fYdU]f'P''bc'bYhk cf_P'''dfcV'Ya'cb'bYk''H*' $'d\cbYg'h\Uh'\Uj Y'VYYb'XUa U[YX'VmXck b[fUX]b[Z]fa k UfY"$

'5'ZYk 'a Ya cfm`YU_g'fYa cj YX"

'9a dhm\/cUfX`dfc[fUa a]b['cZ'bYk '5F A 'd\cbYg'f]|bWi X]b['>' \$\$#?' \$\$#N, \$\$#?+) \$#K , \$\$#?* \$\$#J *\$\$Ł'fY`YUgYX Zcf'U``'i gYfg"

`5XXYX`ZibWh]cb`FYdU]f`WYfh]Z]WUhY`hc`g]ad`]Zmd\cbY`fYj]jU``cb`Z`Ug\`ZU]`ifY"

'5XXYX'Zi bWh]cb FYdU]f '9FCA 'hc 'g]a d`]Zm'9FCA 'UfYU'fYdU]f ']b 'fYX'UbX'Vfck b 'd\cbYg'cZ'7=8&- 'UbX'7=8' * "

'5XXYX'XYhYWh]cb'cZ'7=8(&'@, ''; 'd\cbYg"

'5XXYX'gi ddcfh'Zcf'Z'Ug\]b['fYX'@, 'I, | | | k]h\'7=8(&"

:]I YX Ub]ggi Y Wu g]b[F', \$ D85!dUfhVcchdfcV Ya "

'5XXYX'YI dYf]a YbhU`'gi ddcfh'Zcf'Vcch]b[z'Z'Ug\]b['UbX'Wcb]b['<YXj]['dfchchmdYg"

'H\Y'Vi hhcb!YbUV`]b['gmghYa '\Ug'VYYb'a cX]Z]YX'hc'fYZYVM'ga UfhWUfX'dfYgYbWY'UbX'j Uf]ci g'7=8'cdh]cbg"

'7cffYWWYX'cbY'dfc[fYggVUf'idXUhY'fY`UhYX']ggiY"

'Gca Y'cVgc`YhY'ZUg\]b['cdh]cbg'fYa cj YX"

J Yfg]cb" ", & fl%(h\ '5df]\ &\$\$) Ł.

ˈ6cch]b[ˈVUi XfUhY``]a]hYX hc &' \$(\$\$6X Zcfˈc`XYfˈd\cbYg"DfYj]ci g`mh\Y``]a]hˈk UgˈgYhˈhc ¾) &\$\$6XžVi hˈh\Υ j Yfg]cb'' ", \$ fYa cj YX h\Y Vcch'VUi XfUhY WcbghfU]bhž Wui g]b[ˈcVWWgg]cbU` VcchˈdfcV`Ya g"

FYa cj YX:]`Y GmghYa 'hUV'Vi ['Zfca 'j Yfg]cb'' ", %"

J Yfg]cb" ", %ff%(h\ 5df]\&\$\$) Ł.

:]I YX hk c]ggi Yg fY UhYX hc Vi] h!]b W ghca]nUh]cbg"

J Yfg]cb" ", \$'fl%' h\ '5df]\'&\$\$) Ł.

'7fi]gYf']g'bck 'Uj U]`UV`Y']b'9b[`]g\ž7\]bYgYž'=bXcbYg]Ubž'A U`UmžDc`]g\žFi gg]Ubž'G`cj U_ 'UbX'Gk YX]g\ ``Ub[i U[Yg"

Bck ']h']g'dcgg]V`Y'hc'di h'fYX'Z'Ug\Yg']bhc'Vfck b'UbX'V`i Y'd\cbYg'cZ'7=8%* \dot{z} '7=8%+ 'UbX'7=8&- 'k]h\ci h'Wcbj Yfh]b[h\Ya 'hc'fYX"'H\Y'd\cbY'Wffh]Z]VWhY']g'bch'UZZYVWhX"

`5XXYX`gi ddcfh'Zcf`ZUg\]b[`fYX`UbX`V`i Y`@, `I , %I I `cZ`7=8%+`j]U`g]a d`Y`gYf]U``WUV`Y`hcc"

'5XXYX'gi ddcfh'Zcf'Z'Ug\]b['fYX'@, 'I , %| I 'cZ'7=8(%"

`6UiXfUhY`giVgmghYa`Wcad`YhY`m`fYZUWhcfYX"

'6Ui XfUhY'dU[Y'Zfca 'h\Y'GYhh]b[g'k]bXck 'k Ug'fYd`UWYX'Vmh\Y'@]a]h'VUi XfUhY'Wca VcVcl']b'h\Y'Df]a UfmdU[Y'cZ 7cbhfc``k]bXck"



 $\label{thm:condition} $$ GUI XfUhYg'i gYX'Zcf'ZUg\]b[D85'dUfh'cZ'D, $I \#D- \%'UfY']a]hYX'hc'(*$, $$6X'k \Yb'i g]b[I G6'WUY'Yg'h\Uh'UfY bchYb\UbWYX'Vm'UXX]b[hk c'fYg]ghcfg''H\]g']g'bch'fY`UhYX'hc'8GG! &$'bcf'8GG! &) "$

`=bghU``Yf`i dXUhYX'!`a]bcf'K]bXck g'-, ']ggi Y`Z]l YX"'5b`Yffcf`a YggU[Y`a][\h'\Uj Y'VYYb`X]gd`UmYX'k \Yb`bc'Yffcf cWW ffYX"

'7i ghca]nY: G'Zi bWh]cbU`]hmg`][\ h`ma cX]Z]YX"

'7G'Udd`Yh'Wca a i b]WUh]cb'a UXY'a cfY'j YfVcgY"

`5j U]`UV`Y`ZfYY`gdUW**Y**`]g`bck `X]gd`Um\X`VYZcfY`k f]h]b[`i gYf`Z]`Yg`hc`h\Y`d\cbY"

'< Y`d'Z]`Y'i dXUhYX"</pre>

NUdck]YXn].

'bUdfUk U'hY`YZcbŒk 'i gn_cXnmWX 'fŒk b]Y 'k 'dfnmdUX_i 'VfU_i '_cd]]'VYnd]YWnY ghk U

'dfc[fUack Ub]Y 'Wnmghm\/\\ 'dûmh'fl=A9=ž'FG5ž'CDH''''Ł

'cXWnmh#nUd]g'd`]_CEk'; 8: G

'dYubm'cXWnmh#nUd]g'dUa] W]'hY`YZcbi

 $DU_]Yh^nUk]YfU.$

'_`iWh'gdfn hck m

'Xcgh d'Xc'gi ddcfhi 'dfcXi WfbhU

[k UfUbWU

SUPPORT

 $8`U'7fi]gYfU'k mgh di ^ 'Xk]Y'cdWY'_`i Whm!'k 'nU`Y bc W['cX'XUbY^'XcghUk m_']Ybh'chfnma U'^YXYb'n'Xk CEWX dfnYXghUk]cbmWX'dcb] Y^_`i Whm$

¥ &\$&& k k k "[ga!gi ddcfh"bYh

Cd]g'hYb'b]Y'ghUbck]'cZYfhmik 'fcni a]Yb]i ''?cXY_gi '7mk]'bY[c"'; GA!Gi ddcfh'nUghfnY[U'gcV]Y'dfUkc'Xc'ac`]k mW\'Vû XŒk'kcd]g]Y'dfcXi_hi "

Dfcg]a mc k YfmZ]_UW 'n DU ghk U ghfcbmž U k 'fUn]Y k hd`]k c Wj c _cbhU_h"

; GA!Gi ddcfh

i ```8 cVfY[c`DUghYfnU`%\$&#)

' %! (%* '? fU_Œk

DC @G? 5

 $hY^{`"`*}\$, \ \%\$+(\)\)$

Y!a U]`. 'gU`Yg4 [ga !gi ddcfh''d`

