

Q}Áæ&&[¦åæ}&^Á¸àc@ÁÜÒŒÔPÁÜ^*~|ææi[}ÁÒÔÁÞ[ÈFJ€ÏÐG€€Î

Í€ÁÙPŒÖÒÙÁØÜŒÕÜŒÞÔÒÁJ€ÌÌI€ DfcXiWh.

I JYfg]cb.

GYWh]cb'%":=XYbh]Z]WUh]cb'cZ'h\Y'giVghUbWY'cf'h\Y'a]IhifY'UbX'cZ'h\Y'gidd`]Yf

%"%"DfcX i Wh"=XYbh]Z]Yf

Í€ÁÙPŒÖÒÙÁØÜŒÕÜŒÞÔÒÁJ€ÌÌI€ÁÇÔ[}cæá}•KÇFÙĒGÜĒÍÙĒÏÜĒÌÜDĒÌĒTÒ∨PUÝŸĒ DfcXiWh']XYbh]Z]Yf.

ĠĖĨĖĨĖĬĖVÒVÜŒTÒVPŸŠVÜQÔŸÔŠUŽÍĖHĖFĖ€â,FĖĺ¤åWÞÖÒÔŒÞÒĖÁVÒVÜŒTÒVPŸŠ

ŒÔÒVŸŠUÔVŒPŸÖÜUÞŒÚPVPŒŠÒÞÒÙD

Þ[}^ Ch\Yf']XYbh]Z]Yfg.

%"&`FY`YjUbh`]XYbh]Z]YX`igYg`cZ'h\Y`giVghUbWY`cZ`a]IhifY`UbX`igYg`UXj]gYX`U[U]bgh

DfcXiWhigYg. Ø\æ*\æ}&^•

""8YhU]`g`cZ'h\Y'gidd`]Yf`cZ'h\Y'gUZYhm`XUhU'g\YYh

7c a dUbm bU a Y. Ô : æ-cā~ |ÁŠcå

7 c a dUbm UXXfYgg. Craftiful Ltd

ÚÒGÁÎVÖÁÕÓÁËÁW}āc^åÁSã}*å[{

7cbhUWh.

@^||[O &|æ~cã~~|É& [É~ \ Á 9!AU]`'UXXfYgg.

€FÏHHÁJÎH€GJ 7cadUbm'd\cbY. %"('9 a Yf [YbWm'hY'Yd\cbY'bi a VYf

U c•ãå^ÁU~ã&^ÁP[l•KÁ€ÏÍ€FFJGFFÏ 9 a Yf [YbWm'd\cbY.

GYWh]cb'&"'<UnUfXg']XYbh]Z]WUh]cb

&"%'7`Ugg]Z]WUh]cb'cZ'h\Y'giVghUbWY'cf'a]IhifY

7`Ugg]Z]WUh]cb`ibXYf`FY[i`Uh]cb`fl97\L'Bc'%&+&#&\$\$,

7`Ugg'UbX'WUhY[cfm'cZ Ò^^ÁÖæ{ æ*^ÁÐÁQ¦¦ācæcā[}ÁÔæc^*[¦^ÁG

XUb[Yf. Ù^} •ācā:æcā[}ÁËÁÙ\ā}ÁÔæc^*[¦^ÁF

Pæ:æ¦å[`•Ác[Ác@^ÁŒ``æci&ÁÒ}çi;[} {^}cÁËÅŠ[}*Ēc^;{ÁPæ:æ¦åÁÔæc^*[;^ÁG

PHF Ï ÉÁ Tæ^Á&æ * • ^Áæ } Áæ|| ^ ! * å&Á • \ å } Á ! ^æ&cå [} È

PHFJÊÁÔæˇ•^•Á•^¦ā[ˇ•Á^^Á⦦ācæcā[}È

PIFFÊÁV [¢ā&Ác [Áæ~~æcā&Á|ā~^Á¸āc@Á|[} *Á|æ•cā} *Á~~^&c•È

&"&'@UVY\'Y\Y a Ybhg

7`Ugg]Z]WUh]cb`ibXYf`FY[i`Uh]cb`fl97\L'Bc'%&+&#&\$\$,

G][bU`kcfX. Yæ¦}å} *

Q}Áæ&&[¦åæ}&^Á¸æ@ÁÜÒŒÔPÁÜ^**|ææi[}ÁÒÔÁÞ[ÈFJ€ÏÐG€€Î

Í€ÁÙPŒÖÒÙÁØÜŒÕÜŒÞÔÒÁJ€ÌÌI€ DfcXiWh.

I JYfg]cb.

PHF | ÎÂ Tæ^Á&æ` • ^Áæ}Áæ||^! * ã&Á • \ã}Á!^æ&cã [}È <unufx ghUhY a Ybhg.

PHFJÊÁÔæˇ•^•Á•^¦ā[ˇ•Á^^Á⦦ācæcā[}È

PIFFÊÁV [¢ã&Ác [Áæ~~æcã&Á|ã~^Á¸ãc@Á|[} *Á|æ•cã} *Á^~~^&c•È

Gidd'YaYbhU' =bZcf a Uh]cb.

ÒWPG€ÌĖÅÔ[}œä}•ÁÓÒVŒËԌܟUÚPŸŠŠÒÞÒĖÁÔQVÜŒŠĖÁ⊤æ^Á]¦[å~&^Áæ}Áæ]|^!*ä&Á¦^æ&cã[}È

DfYWUih]cbUfm ghUhY a Ybhg.

ÚGÎFÊÁŒç[ãåÁà¦^æc@ã}*Áçæ][˘¦Á[¦Áå˘∙cÈ

ÚGÎIÊÁYæ•@Á@æ}å•Áæ}åÁ[c@^¦Á&[}cæ&c^åÁ•\ã}Ác@[¦[`*@|^Áæ-c^¦Á@æ}å|ã}*È

ÚGÏGÊÂÔ[}cæ{ä}æc^åÁ、[¦\Á&|[c@ã}*Á•@[ˇ|åÁ}[cÁà^Áæ||[、^åÁ[ˇcÁ[~Ác@^Á、[¦\]]æ&^È

ÚGÏHÊÁŒç[ãåÁ¦^|^æ•^Ác[Ác@^Á^}çã¦[} { ^}cÈ

ÚGÌ€ÉÁY^æ¦Á]¦[c^&cáç^Á*|[ç^•Ð^^^Á]¦[c^&cá[}Ð-æ&^Á]¦[c^&cá[}È ÚH€GÐHÍGÊÁQØÁUÞÁÙSQÞKÁYæ•@Á¸āc@Á]|^}c^Á[~Á•[æ]Áæ}åÁ¸æc^¦È

ÚH€ÍÐHÍFÐHHÌĒÁQØÁQÞÁÒŸÒÙKÁÜā}•^Á&æˇċā[ˇ•|^Á¸āc@Á¸æc^¦Á-[¦Á•^ç^¦æ|Á{ā}ˇc^•ĒÁÜ^{[ç^Á&[}cæ&c |^}•^•ĒÁā-Á]¦^•^}cÁæ}åÁ^æ•^Ác[Áå[ĒÁÔ[}ċā}ˇ^Á!ā}•ā}*Ē ÚHHHÐHFHEÁQ-Á•\ā}Á⦦ācæcā[}Á[¦Á¦æ•@Á[&&ˇ¦•KÁÕ^cÁ{^åå&æ|Áæåçā&^Ðæcc^}ċā[}È ÚHHÏÐHFHÊÁQ-Á^^AÁ¦¦iácæcá[}Á]^¦•ā•c•KÁÕ^cÁ{^åä&æ|Áæåçã&^Ðæcc^}cá[}È

ÚHÎHÊÁYæ•@Á&[}cæ{ä}æc^åÁ&|[c@ã}*Áà^~[¦^Á¦^`•^È

ÚHJFÊÁÔ [||^&cÁ•]ã||æ*^È

ÚÍ€FĒÁÖã•][•^Á[~Á&[}c^}c•Ð&[}cæã}^¦Ác[Áæ]]¦[ç^åÁåãĕ•][•æ|Á•ãc^ĒÁã}Áæ&&[¦åæ}&^Á¸ãc@Á|[&æ|

D]Whc[fUag.

&"''Ch\Yf'\UnUfXg

ÓÒVŒËԌܟUÚPŸŠŠÒÞÒĒÁÔQVÜŒŠ Ch\Yf'\UnUfXg. Ù^} •ācã•^¦•Áå^&|æ¦^åÁ[}ÁæÁÔŠÚ

Pæ:æ¦åÁŠæà^|K

P^å|[&æ|à[}ÁÔ[}&^}clæca[}ÁÃK GÈÏJ€Ã

GYWh]cb''"'7cadcg]h]cb'#']bZcfaUh]cb'cb']b[fYX]Ybhg

'"&`A]IhifYg

7cbhU]bg.

BUaY	75G	97	F957<'FY[]ghfUh]cb Bc"	ı	7`Ugg]Z]WUh]cb'Zcf fl7@DŁ'%&+&#&\$\$,</th><th>GdYW]Z]W'7cbW" @] a]hgž' A!ZUWhcfg UbX'5H9g</th></tr><tr><td>VÒVÜŒTÒVPŸŠ ŒÔÒVŸŠUÔVŒPŸÖÜUÞ ŒÚPVPŒŠÒÞÒÙ</td><td> </td><td>GÍJĒFÏIĒHĒ GÍJĒFÏÍĒJĒ GÎÌĒJÏÌĒHĒ GÎÌĒJÏJĒJĒ JFÍĒÏH€ĒH</td><td>€FĒGFFJIÌJJÌJĒ€IĒ¢¢¢¢</td><td></td><td>ÙÔÁGĒÙÙÁFÓĒÒPÁÔGL PHFÍĒPHFÏĒPIFFĒĒ</td><td></td></tr></tbody></table>
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Q}Áæ&&[¦åæ}&^Á¸åc@ÁÜÒŒÔPÁÜ^* ~|æċa[}ÁÒÔÁÞ[ÈFJ€ÏÐG€€Î

DfcXiWh. ̀ÁÙPŒÖÒÙÁØÜŒÕÜŒÞÔÒÁJ€ÌÌI€

JYfg]cb.

المراقع	1	1	T	1	
GĒVĒ ÓWVŸŠÔŸÔŠUPÒÝŸŠU ÝŸÓWVŒÞUŠ	FHJÍ€IËÎÌË€	IFGËH€€ËG		FËŁÍÃ	ÒÖMGĒÒPÁÔGLPHFJĒ PIFFĒĒ
FÉHÉ LÉÎÉTÉ Ì É PÒÝŒ PŸÖÜUÉ LÉÎÉÎÉÏÉÌÉ Ì É PÒÝŒ TÒV PŸŠÚ ÞÖÒ ÞU ŽÍÉÎ ĒÔÁÚ ŸÜŒ Þ	FGGGĒ€ÍĒÍ	GFIËJIÎËJ	€FĒGFFJIÌÌGGÏĒGJĒ¢¢¢¢	FËŁÍÃ	ÒPÁŒFĒÒPÁÔFLPIF€ÉË
VÒVÜŒPŸÖÜUĒ TÒVPŸŠĒ (TÒVPŸŠÚÜUÚŸŠŒ ÚŸÜŒÞĒĪĒUŠ	ÎHÍ€€ËÏFË€	ı€íË€ı€ĔÎ	€FĒ€€€€FÍIÍÌĒĴIĒ¢¢¢¢	FËŁÍÃ	ÒÖMGLPHFJÉÉ
UÔVŒPŸÖÜUĒ VÒVÜŒTÒVPŸŠĒ TÒVPŒÞUĒFĒ ÞŒÚPVPUŠ	ÍJÌÎĒÍÍĒ€	GGÏĒÌ€ÏĒG		FËŁÍÃ	Ò PÁ ÔGLP I FFÉÉ
(ÇFÙÉGÜÉÍÙÉÏÜÉÌÜDĒÌĒ TÒVPUÝŸÉGÉÎÊÎÊÌĒ VÒVÜŒTÒVPŸŠVÜ≬ÔŸ ÔŠUŽÍĒHĒFĒ€â,FĒÍ™ WÞÖÒÔŒÞÒ	ÎÏÌÏIËÌFËF	GÎÏËÍF€ËÍ		FËŁÍÃ	ÙÙÁFÓĒÒPÁŒFĒÒPÁÔFL PHFÏĒPIF€ĒĒ
IĒÔŸÔŠUPÒÝŸŠĒGĒ TÒVPŸŠĒGĒÓWVŒÞUŠ	ÌHJGÎËÏHËG	IG€ËÎH€ËH	€FË€€€€FÎÏGÍËÎÎË¢¢¢¢	FËŁÍ Ã	ÒÖMFĒÒPÁÔGLPHFÌĒ PIFFĒĒ
ÔQVÜŒŠ	ÍHJGËI€ËÍ	GGÎËHJIĒÎ	€FËGFFJIÎGÌGJËGHË¢¢¢¢	€ÈFËŁFÃ	ÙÔMGĒÒÖMGĒÙÙMFL PHFÍĒPHFĪĒPHFJĒĒ
ÓÒVŒ ԌܟUÚPŸŠŠÒÞÒ	ÌÏĒIIĒÍ	G€FËÏ∣ÎĒF		€ÌFËŁFÃ	ÙÙÁFÓĒŒPÁFLPH€TĒ PHFÏĒĒ

GiVghUbWYg'k]h\'7caaib]hm'kcf_d'UWY'YIdcgifY'`]a]hg.

BUaY	75G	97	F957<'FY[]ghfUh]cb Bc"	ı	7`Ugg]Z]WUh]cb'Zcf fl7@DL'%&+&#&\$\$,</th><th>GdYW]Z]W`7cbW" @] a]hgž`A!ZUWhcfg UbX`5H9g</th></tr><tr><td>ÖQÒVPŸŠÁÚPVPŒŠŒVÒ</td><td>Ì IĒÎ ÎĒG</td><td>G€FËÍÍ€ĒÎ</td><td>€FËGFFJIÌÎÎÌGËGÏË¢¢¢¢</td><td>Í€ËF€€Ã</td><td>ĒLĒĒĒ</td><td></td></tr></tbody></table>
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 $\label{lem:continuous} GiVghUbWYg'h\Uh'UfY'YbXcWf]bY'X]gfidhcfg'UWWcfX]b['hc'FY[i`Uh]cb'fl9IŁ'&$\%+\#&\%$$'cf'FY[i`Uh]cb'fl9IŁ'&$\%,\#*$)\\ ifYUhYf'h\Ub'$''\%i.$

Þ[cÁŒ]]|ä&æà|^

GiVghUbWYg'h\Uh'UfY'dYfg]ghYbhž'V]cUWWiai`Uh]jY'UbX'hcI]W'cf'jYfm'dYfg]ghYbh'UbX'jYfm'V]cUWWiai`Uh]jYž'[fYUhYfh\Ub'\$"% i.

Þ[cÁŒ]]|ä&æà|^

GYWh]cb'(":]fgh!U]X'aYUgifYg

("%'8YgWf]dh]cb'cZ'Z]fgh'U]X' a YUg i fYg

=b\U`Uh]cb. Ü^{[ç^A-|[{Å^¢][•`\^Á•āc^Ac[Á-\^•@Áæā¦ÊÁ\^^]ÁæcÁ¦^•cÊÁæ}åÁ[àcæā}Á{^åā&æ|Áæcc^}cā[}È

9mY'YldcgifY. QØÁQÞÁÒŸÒÙKÁÜä}•^Á&æˇċä[ˇ•|^Á¸āċ@Á¸æc^¦Á-[¦Á•^ç^¦æ|Á {ā}ˇc^•ÈÁÜ^{ [ç^Á&[}cæ&cÁ|^}•^•ÊÁā-Á]¦^•^}c

æ}åÁ^æ•^Ác[Áå[ÈÁÔ[}cã} ~^Á¦ā}•ã}*È

G_]b'YldcgifY. QØÁUÞÁÙSQÞKÁYæ•@Á¸āc@Á]|^}c^Á[-Á•[æ]Áæ}åÁ¸æc^¦È =b[Ygh]cb. Üä}•^Á { [`c@Á¸āc@Á¸æc^¦Áæ}åÁ [àcæā}Á { ^åä&æ|Áæcc^}cā[}È

$\hbox{($"\&$`Acgh']$ a dcfhUbh'gm a dhc a g'UbX'YZZYWhgž'Vch \ `UW i hY'UbX'XY`UmYX } \\$

Tæ^Á&æ~•^Áæ}Áæ||^!*ã&Á•\ã}Á!^æ&cã[}È

Q}Áæ&&[¦åæ}&^Á¸ic@ÁÜÒŒÔPÁÜ^*~|ææi[}ÁÒÔÁÞ[ÈFJ€ÏÐG€€Î

DfcXiWh. 50 SHADESÁØÜŒÕÜŒÞÔÒÁJ€ÌÌI€

JYfg]cb.

("''=bX]WUh]cb'cZ'Ubm']a a YX]UhY' a YX]WU\'UhhYbh]cb'UbX'gdYW]U\'hfYUh a Ybh'bYYXYX

Þ[}^Á^¢]^&c^åÊÁ•^^ÁÙ^&cā[}ÁIÈFÁ~[¦Á~~¦c@^¦Áā}~[¦ {æcā[}È

GYWh]cb').':]fYZ][\h]b['a YUgifYg

Ù ĭacæà|^Á { ^åiæK Ôæ¦à [}Áåi [¢iå^ÊÁÖ¦ ^Á&@^ { i&æ|ÊÁØ [æ { È

)"&'GdYW]U``\UnUfXg'Uf]g]b['Zfca'h\Y'giVghUbWY'cf'a]IhifY

)"''5Xj]WY'Zcf'Z]fY'Z][\hYfg.

Q}Á&æ•^Á[~Áā}•~~ā&ā^}cÁç^}cā|æcā[}ÊÁ¸^æ¦Á•~ācæà|^Á¦^•]ā!æc[!^Á^~~ā]{^}cÈ

GYWh]cb'*"5WW]XYbhU'fYYUgY'aYUgifYg

*"%`DYfgcbU``dfYWUih]cbgž'dfchYWh]jY'Yei]daYbh'UbX'YaYf[YbWm'dfcWYXifYg.

΍[ååÅå}@æ|æci[}ÈÁŒç[ååÅ&[}cæ&ch,åc@h•\å}Åæ}åÅ^^•ÈÀÙ^^A]¦[c^&ciç^h{^æ•`¦^•h`}å^!hÙ^&ci[}ÁÏÅæ}åÅÌÈ

*"&'9bj]fcbaYbhU`'dfYWUih]cbg.

*"' A Yh \ cXg'UbX' a UhYf]U`'Zcf'WcbhU]b a Ybh'UbX'W'YUb]b [i d.

Ü^ { [ç^Áā*}ācā[}Å•[~!&^•ÈÁÚ![çāå^Áæå^~~æc^Áç^}ca|æcā[}ÈÁŒç[āåÁ^¢&^••āç^Áā}@æ|æcā[}Á[~Áçæ][~!•ÈÁÔ[}cæā}Á•]ā||æ*^ ā { {^åāæc^|^Áà^Á~•^Á[-Á•æ}åÁ[!Áā}^!cÁ][¸å^!ÈÁÖā•][•^Á[-Áæ&&[!åā}*Ác[Á|[&æ|Á!^*~|æcā[}•È

*"('FYZYfYbWY'hc'ch\Yf'gYWh]cbg.

Œ|•[Á¦^~^¦Ác[Á•^&cã[}•ÁÌÁæ}åÁFHÈ

GYWh]cb'+"'<UbX`]b['UbX'ghcfU[Y

+"%'DfYWUih]cbg'Zcf'gUZY'\UbX`]b[.

+"&'7cbX]h]cbg'Zcf'gUZY'ghcfU[Yž']bW' i X]b['Ubm']bWc a dUh]V]`]h]Yg.

Ùc[¦^Áā}ÁæÁ¸^||Ēç^}ci|æc^åÁ]|æ&^ÈÁS^^]Á&[}cæi}^iÁci*@c|^Á&|[•^åÈÁS^^]Á&[[|ÈÁÕ;[`}åÐà[}åÁ&[}cæi}^iÁæ}åÁ!^&^iáæ;*
^``ā] {^}cEÁW•^Á^¢]|[•i[}Ë]¦[[-Á^|^&c¦i&æ|ÉÁç^}ci|æci}*Áæ}åÁ|ā*@ci}*Á^``ā] {^}cEÁW•^Á[}|^Á}[}Ë•]æ¦\ā}*Ác[[|•ÈÁVæ\^]¦^&æ`ci[}æk'^Á {^æ•`¦^•Áæ*æi}•cÁ•cæci&Áái•&@æ¦*^E

Q}Áæ&&[¦åæ}&^Á¸åc@ÁÜÒŒÔPÁÜ^* ~|ææi[}ÁÒÔÁÞ[ÈFJ€ÏÐG€€Î

DfcXiWh. ̀ÁÙPŒÖÒÙÁØÜŒÕÜŒÞÔÒÁJ€ÌÌI€

JYfg]cb.

+"'GdYW]Z]W'YbX'i gYflgL.

GYWh]cb', "'9 I dcg i fY'Wcbhfc`g#dYfgcbU`'dfchYWh]cb

, "%' 7cbhfc`'dUfU a YhYfg

Y[¦\]|æ&^Å^¢][•~¦^Å|ã{ãc•K

=b[fYX]Ybh	75G	97 8YgWf]dh]cb		JUTIY	
ÖlÖVPŸŠÁÚPVPŒŠŒVÒ	Ì IĒÎ ÎĒG	G€FĒÍÍ€ĒÎ	WSÁŠ[}*Ēc^¦{Á^¢][•`¦^Á ā{ācÁÇÌĒ@[`¦ÁVΥŒD Ç{*Ð{HD	ÍÁ{*Ð{	
OUOVPYSHOPVPLESLEVO			WSÁÙ@[ċĒċ^ { Á^¢][•~ ^Á ā { āċÁÇFÍĒ { ā} ~ c^D Ç { *Ð { HD	F€Á{*Ð{	

,"&'9 ldcg i fY'7cbhfc`g

9mY'#'G_]b'DfchYWh]cb

Y^æ¦Á];[c^&cáç^Á*|[ç^•D^^^Á];[c^&cá[}D-æ&^Á];[c^&cá[}

FYgd]fUhcfm'DfchYWh]cb

Œ|• [Á¦^-^¦Ác [ÁÙ^&cã [}•ÁGÁæ}åÁÏÈ

GYWh]cb'-"'D\mg]WU\'UbX'W\Ya]WU\'dfcdYfh]Yg

-"%'=bZcf a Uh]cb'cb'VUg]W'd\mg]WU`'UbX'W\Y a]WU`'dfcdYfh]Yg

D\mg]WU``GhUhY#7 c`c i f. Ô|^æ!Á&[|[~`\|^••Ác[Á]æ|^Á^^||[¸Á|ã~~iå

CXc i f . P [chå^c^! { i } ^ å
CXc i f 'h \ f Y g \ c` X . P [chå^c^! { i } ^ å
AY`h]b ['dc]bh#Zf Y Y n]b ['dc]bh . P [chå^c^! { i } ^ å
6c]`]b ['dc]bh 'cf ']b]h]U``Vc]`]b ['dc]bh 'Ub X`Vc]`]b [P [chå^c^! { i } ^ å
f Ub [Y .

:`Ug\'dc]bh. NÅF€€Á»Ô

5 ihc!][b]h]cb'hY a dYfUh i fY. Þ [cla^c^\ { \bar{a}}^\a*

Q}Áæ&&[¦åæ}&^Á¸ãc@ÁÜÒŒÔPÁÜ^*~|ææi[}ÁÒÔÁÞ[ÈFJ€ÏÐG€€Î

DfcXiWh. ̀ÁÙPŒÖÒÙÁØÜŒÕÜŒÞÔÒÁJ€ÌÌI€

JYfg]cb.

jU`iYŁ.

JUdcif'dfYggifY. €İ€€I€IÌÏÌÁ{{P*

8Ybg]hm'UbX#cf'fY`Uh]jY'XYbg]hm. FÈ€ÎÌ€

 FY`Uh]jY`jUdcif`XYbg]hm.
 ▷ [cåå^c^¦ {ã}^å

 DUfh]W`Y`W\UfUWhYf]gh]Wg.
 ▷ [cåå^c^¦ {ã}^å

- "& Ch\Yf']bZcf a Uh]cb. ▷ [} ^Áæçæi|æà|^

$\underline{\text{GYWh}]\text{cb'}\%\$"\text{GhUV}]`]\text{hm'}\text{UbX'}\text{fYUWh}]\text{j}\text{hm}$

%\$"%'FYUWh]j]hm.

Ú¦^•^}c•Á}[Á•ā*}ā~ā&æ}cÁ¦^æ&cāçāc^Á@æ:æ¦åÊÁà^Áāc•^|-Á[¦Áā}Á&[}cæ&cÁ¸āc@Á¸æc^¦È

%\$"&'7\Ya]WU`'ghUV]`]hm.

Ö[[åÅ•cæàā|āc^Áˇ}å^¦Å}[¦{æ|Å•c[¦æ*^Á&[}åäcā[}•É

%\$"'`Dcgg]V]`]hm'cZ'\UnUfXcig'fYUWh]cbg.

Þ[cÁ^¢]^&c^åÁ`}å^¦Á}[¦{æ|Á&[}åãcã[}•Á[~Á`•^È

%\$"('7cbX]h]cbg'hc'Ujc]X.

΍[äåÁ^¢c¦^{^Á@^æcÈ

%\$") =bWc a dUh]V`Y` a UhYf]U`g.

΍[äåÁ&[}cæ&cÁ¸āc@Á•c¦[}*Áæ&äå•ÊÁæ|\æ|ā•Á[¦Á[¢āåā•ā}*Áæ*^}c•È

%\$"*'<UnUfXc i g'XYWc a dcg]h]cb'dfcX i Whg.

Þ[cÁ^¢]^&c^åÈ

GYWh]cb'%%"'HcI]Wc`c[]WU`']bZcf a Uh]cb

%%"%'=bZcfaUh]cb'cb'\UnUfX'W'UggYg'Ug'XYZ]bYX']b'FY[i`Uh]cb'fl97\!Bc'\&+&#&\\$,

V@ā•Á { ā¢cˇ¦^Á@æ•Á} [cdà^^}Ác^•c^åÁæ•ÁæÁ¸@[|^Á-[¦Á@^æ|c@Á^--^&c•ÉÁV@^Á@^æ|c@Á^--^&c•Á@æç^Áà^^}Á&æ|&ˇ|æc^åÁˇ•ā} *Ác@^ { ^c@[å•Á[ˇc|ā}^åÁā}ÁÜ^*ˇ|æċā[}ÁçÒÔDÁÞ[ÁFGÏGÐG€ÈÌÁÇÔŠÚDÈ

5WihY'Hcl]W]hm. Óæ•^åÁ[}Áæçæi|æà|^ÁåæcæÁc@^Á&|æ••i-ā&æci[}Á&lāc^lāæÁæl^Á}[cÁ{^cÈ

 C&* c^ÁV [¢ā&āc^ÁU | æ|
 Þ [cÁŒ]] [ā&æà]^

 C&* c^ÁV [¢ā&āc^ÁÖ^! {æ|
 Þ [cÁŒ]] [ā&æà]^

 C&* c^ÁV [¢ā&āc^ÁQ} @æ|æcā [}
 Þ [cÁŒçæā|æà|^

G_|b`Wcffcg]cb#]ff]hUh]cb. Óæ•^åÅ[}Åæçæi@æà|^Ååææækœ\c@^Á&|æ••å-å&æci[}Å&;åc^¦åækæ;^Å}[ck { ^ck

 GYf]c i g'YmY'XU a U [Y#]ff]hUh]cb.
 Ò ^ ÁÖæ { æ* ^ÁÐÁQ!!iācæcā [}ÁÔæc^* [! ^ÁG

 FYgd]fUhcfm'cf'g_]b'gYbg]h]gUh]cb.
 Ù ^ }•ācā:æcā [}ÁĒÂÙ \ā }ÁÔæc^* [! ^ÁF

; Yf a 'WY``` a i hU[Yb]W]hm. Óæ•^åÅ[}Áæçæi|æà|^ÁåæcæÁc@^Á&|æ••å-å&æci[}Á&!åc^!åæÁæ!^Á}[cÁ{^cÈ

 $@ \hat{A} = \frac{1}{2} \hat{A} \otimes A = \hat{A} \otimes \hat{A} = \hat{A} \otimes \hat{A} = \hat{A} \otimes \hat{A} \otimes \hat{A} = \hat{A} \otimes \hat{A} \otimes \hat{A} = \hat{A} \otimes \hat{A} = \hat{A} \otimes \hat{A} = \hat{A} \otimes \hat{A} \otimes \hat{A} \otimes \hat{A} = \hat{A} \otimes \hat{A} \otimes \hat{A} \otimes \hat{A} = \hat{A} \otimes

DfcXiWh. ̀ÁÙPŒÖÒÙÁØÜŒÕÜŒÞÔÒÁJ€ÌÌI€

JYfg]cb.

 7UfW]bc [Yb]W]hm.
 Óæ•^åÅ[} Åæçæi|æà|^ÅåæcæÁc@^Á&|æ••ā-ā&æci[} Å&¦āc^!āæÁæ!^Á} [cÁ { ^cÈ

 FYdfcX i Wh] jY hc I]W]hm.
 Óæ•^åÅ[} Áæçæi|æà|^ÁåæcæÁc@^Á&|æ••ā-ā&æci[} Á&¦āc^!āæÁæ!^Á} [cÁ { ^cÈ

 GHCH!g]b [`Y'Y l dcg i fY.
 Óæ•^åÅ[} Áæçæi|æà|^ÁåæcæÁc@^Á&|æ••ā-ā&æci[} Á&¦āc^!āæÁæ!^Á} [cÁ { ^cÈ

 GHCH!fYdYUhYX'Y l dcg i fY.
 Óæ•^åÅ[} Áæçæi|æà|^ÁåæcæÁc@^Á&|æ••ā-ā&æci[} Á&¦āc^!āæÁæ!^Á} [cÁ { ^cÈ

 5gd]fUh]cb`\UnUfX.
 Óæ•^åÅ[} Áæçæi|æà|^ÁåæcæÁc@^Á&|æ••ā-ā&æci[} Á&¦āc^!āæÁæ!^Á} [cÁ { ^cÈ

=bZcfaUh]cb'UVcih'\UnUfXcig']b[fYX]Ybhg']b'h\Y'a]IhifY

Þ[cÁŒ]]|ä&æà|^

Ü^~^!Ác[ÁÙ^&cā[}•ÁGÁæ}åÁHÁ~[!Áæååācā[}æ|Áā}~[!{æcā[}È

%%"&'=bZcf a Uh]cb'cb'ch\Yf'\UnUfXg

Þ[cÁŒ]]|ä&æà|^

GYWh]cb'%&"'9Wc`c[]WU`']bZcf a Uh]cb

%&"%'Hc |]W]hm.

V [¢ā&Ác [Áæ~~æcā&Á|ā~^Á¸āc@Á|[}*Á|æ•cā}*Á^~~^&c•È

 %&"&"OYfg]ghYbWY'UbX'XY[fUXUV]`]hm.
 中[dæç總|æà|^

 %&"''6]cUWWiai`Uh]jY'dchYbh]U`.
 中[dæç總|æà|^

 %&"('AcV]`]hm']b'gc]`.
 中[dæç總|æà|^

%&") FYg i hg cZ D6H UbX jDj6 UggYgg a Ybh.

V@a•Á•~à•cæ}&^Áå[^•Á}[cÁ{^^cÁc@^ÁÚÓVÐçÚçÓÁ&fāc^fāæÁ[~ÁÜÒŒÔPÊÁæ}}^^¢ÁÝQQÈ

%&"*`9bXcWf]bY`X]gf i dh]b [`dfcdYfh]Yg. ▷ [⋈Œ]]|i&æà|^
%&"+`Ch\Yf`UX j YfgY`YZZYWhg. ▷ [⋈æçæi|æà|^

GYWh]cb'%'"'8]gdcgU`'Wcbg]XYfUh]cbg

%'"%'KUghY'hfYUhaYbh'aYh\cXg.

\text{\displaysquare} \text{\displaysquare}

GYWh]cb'%("'HfUbgdcfh']bZcf a Uh]cb

	%("%" I B bi a VYf" cf =8"bi a VYf.		%("' HfUbgdcfh \UnUfX'W'Ugg flYgŁ.	GiV [·] F]g	%("(`DUW_]b[;fcid.
IB'AcXY' FY[i`Uh]cbg	WÞH€ÌG	ÒÞXQÜUÞTÒÞVŒŠŠŸÁPŒZŒÜÖUWÙ ÙWÓÙVŒÞÔÒĖÁŠQÛWQÖĖÁÞĖUĖÙĖ ÇFĖHĖ IĖ ĨĖ ÏĖ IĒPÒÝŒPŸÖÜUĒ IĖ ĨĖ ĨĖ ĨĖ ÌĖ ÌĖ PÒÝŒTÒVPŸŠQÞÖÒÞUŽÍĖ ĨĒÔáÚŸÜŒÞĖ ÇFÙĖGÜĖ Í ÙĖ Ï ÜĖ Ì ÜDĒ ÌĒ TÒVPUÝŸĒGĖ ÎĖ ÎĖ ÌĖ VÒVÜŒTÒVPŸŠVÜQÔŸÔŠUŽÍĖHĖFĖ€â ,FĖ Í ¤åWÞÖÒÔŒÞÒD	J	Ë	QQQ

X^¦•ā[}KÁIÁÇ€ÌЀÌÐG€GHD

G5:9HM'85H5'G<99H

Q}Áæ&&[¦åæ}&^Á¸åc@ÁÜÒŒÔPÁÜ^* ~|æċa[}ÁÒÔÁÞ[ÈFJ€ÏÐG€€Î

DfcXiWh. ̀ÁÙPŒÖÒÙÁØÜŒÕÜŒÞÔÒÁJ€ÌÌI€

JYfg]cb.

= A 8;	WÞH€ÌG	ÒÞXQÜUÞTÒÞVŒŠŠŸÁPŒZŒÜÖUWÙ ÙWÓÙVŒÞÔÒĖÁŠQÛWQÖĖÁÞÈUĖÙĖ ÇFĖHĖ IĖÎĖÏĖÌĒPÒÝŒPŸÖÜUĒ IĖÎĖÎĖÏĖÌĖÌĒ PÒÝŒTÒVPŸŠQÞÖÒÞUŽÍĖĨĒÔÁÚŸÜŒÞĖ ÇFÙĖGÜĖÍÙĖÏÜĖÌÜDĒÌĒTÒVPUÝŸĒGĖÎĖÎĖÌĒ VÒVÜŒTÒVPŸŠVÜQÔŸÔŠUŽÍĖHĖFĖ€â ,FĖͤ¾WÞÖÒÔŒÞÒDÁTŒÜQÞÒ ÚUŠŠWVŒÞV	J	Ë	QQQ
58FžF=8ž58B	WÞH€ÌG	ÒÞXQÜUÞTÒÞVŒŠŠŸÁPŒZŒÜÖUWÙ ÙWÓÙVŒÞÔÒĖÁŠQÛWQÖĖÁÞĖŪĖÙĖ ÇFĖĦĖIĖĨĖÏĖÌĖPÒÝŒPŸÖÜUĒIĖĨĖÎĖĨĖÌĖÌĖ PÒÝŒTÒVPŸŠQÞÖÒÞUŽÍĖĨĖÕáÚŸÜŒÞĖ ÇFÜĖGÜĖÍŮĖÏÜĖÌÜDĖÌĒTÒVPUÝŸĒĢĖÎĖĨĖÌĖ VÒVÜŒTÒVPŸŠVÜQÔŸÔŠUŽÍĖHĖFĖ€â ,FĖͤäWÞÖÒÔŒÞÒD	J	Ë	QQQ
=7 5 C `H=	WÞH€ÌG	ÒÞXQÜUÞTÒÞVŒŠŠŸÁPŒZŒÜÖUWÙ ÙWÓÙVŒÞÔÒĖÁŠQÛWQÖĖÁÞÈUÈÙĖ ÇFĖHĖ IĖÎĖÏĖÌĒPÒÝŒPŸÖÜUĒ IĖÎĖĨĖĨĖÌĖÌĒ PÒÝŒTÒVPŸŠQÞÖÒÞUŽÍĒĨĒÔÁÚŸÜŒÞĒ ÇFÙĖĠÜĖÍÙĖÏÜĖÌÜDĒÌĒTÒVPUÝŸĒĠĒÎĖÎĖÌĒ VÒVÜŒTÒVPŸŠVÜQÔŸÔŠUŽÍĖHĖFĖ€â ,FĖͤåWÞÖÒÔŒÞÒD	J	Ë	000

%(")`9bj]fcbaYbhU``\UnUfXg. V@i•Åi•Á&|æ••ã-å^åÁæ•Áæ}Á^}çā![}{^}cæ||^Á@æ:æ¦å[˘•Á•˘à•cæ}&^Áˇ}å^lÁc@^ÁWÞ

Ô[å^È

%("*'GdYW]U`'dfYWUih]cbg'Zcf'igYf. ▷[}^Áæååää[}æ|

%("+'AUf]h] a Y'hfUbgdcfh']b'V i`_'UWWcfX]b ['hc'=AC']bghf i a Ybhg.

Þ[cÁæ]]|ä&æà|^

GYWh]cb'%)"'FY[i`Uhcfm']bZcfaUh]cb

%) "% GUZYhmž \ YU`h\ `UbX `Yb j]fcb a YbhU``fY [i `Uh]cbg#`Y []g`Uh]cb `gdYW]Z]W `Zcf `h\Y`g i VghUbWY`cf` a] Ih i fY \triangleright [} $^$ \/\delta \adala
%)"&'7\Ya]WU`'GUZYhm'5ggYggaYbh

ŒÁÔ@^{ i&æ|ÁÙæ-^c^ÁŒ••^••{ ^}cÁ@æ•Á}[cÁà^^}Á&æ!!ä^åÁ[~cÁ-[!Ác@ā•Á]![å~&cÈ

GYWh]cb'%*"'Ch\Yf']bZcf a Uh]cb

7cbWYbhfUh]cb · · · @]a]hg. ÒÖ¼GMÍÌÈIÌÃÁÙÙÁFMG€È€€ÃÁÒPÁÔGMHÎÈÌIÃÁÒPÁÔHMHÈÎÌÃÁÒÖ¼GŒMÍÌÈ

ΙÌÃ

HchU`: fUWh]cbU`'JU` i Yg. ÒÖ¼GMFÈÏ FÁÙÙÁFM Í È€€ÁÒPÁÔGMGÈÏ FÁÒPÁÔHMG Ï ÈF IÁÒÖ¼GŒMFÈÏ F

?Ym'hc'fYj]g]cbg.

ÙÒÔVQU ÞÁHKÁÔ [{] [•ācā [}Đā } ~ [¦ { æcā [}Á [}Áā } * !^åā^ } c•

?Ym'hc'UVVfYj]Uh]cbg.

0}Áæ&&[¦åæ}&^Á¸ác@ÁÜÒŒÔPÁÜ^*~|æá[}ÁÒÔÁÞ[ÈFJ€ÏÐG€€Î

DfcXiWh. ̀ÁÙPŒÖÒÙÁØÜŒÕÜŒÞÔÒÁJ€ÌÌI€

JYfg]cb.

ŒPÁF	Œ•]ilæi[}ÁPæ:ælåÁÔæ^*[!^ÁF
ÒÖØÁF	Ò^^ÁÖæ { æ*^ÁÐÁQ¦¦āœæi[}ÁÔæc^*[¦^ÁF
ÒÖQÁG	Ò^^kÖæ { æ*^ÁÐÁQ¦¦ácæci[}kÔæc^*[¦^ÁG
ÒPÁŒF	Pæ:æ¦å[~•Ác[Ác@^ÁŒ~~œ;ã&ÁÒ}çā¦[}{^}cÁĒÁŒ&~c^ÁPæ:æ¦åÁÔæc^*[¦^ÁF
ÒPÁÔF	Pæ:æ¦å[ˇ•Ác[Ác@^ÁŒˇˇæċi&ÁÒ}çå¦[} {^}cÁĒÁŠ[}*Ēc^¦{ÁPæ:æ¦åÁÔæc^*[¦^ÁF
ÒPÁÔG	Pæ:æ¦å[ˇ•Ác[Ác@^ÁŒˇˇæċi&ÁÒ}çå¦[} {^}cÁĒÁŠ[}*Ēc^¦{ÁPæ:æ¦åÁÔæc^*[¦^ÁG
PH€I	Tæ^kà^h-æœ ki-h•,æ [,^åkæ}åh^}c^!•kæi!,æ^•È
PHFÍ	Ôæˇ•^•Á•\ā} Áā! lācæcā [}È
PHFÏ	Τæ^Á&æˇ•^Áæ}Áæ ^!*ä&Á•\i}Á!^æ&αi[}È
PHFÌ	Ôæˇ•^•¼•^¼¡´´•¼^^^¼åæ { æ*^È
PHFJ	Ôæˇ•^•Á•^¦ā[ˇ•Á^^Á⦦āœcā[}È
PIF€	X^\^^kc[@a&hc[hæ~~æci&h a~^h_ ic@h [}*h æ•ci}*h^^&c•È
PIFF	V [øå&kc [Áæ´ ˇæcå&Á à-^Á ¸ åc@Á [} *Á æ•cå } *Á^^&c•È
ÚGÎF	Œç[ååÅà¦^æc@à} *Áçæ][~¦Á[;Áå ~•cÈ
ÚGÎI	Yæ•@Á@æ}å•Áæ}åÁ[c@^¦Á&[}cæ&c^åÁ•\i}Ác@[¦[`*@ ^Áæ-c^¦Á@æ}å i}*É
ÚGÏG	Ô[}cæ{i}æc^åÁ¸[¦\Á& [c@i}*Á•@[` åÁ}[cÁà^Áæ [¸^åÁ[`cÁ[-Ác@^Á¸[¦\]]æ&^È
ÚGÏH	Œç[ååŦ^ ^æ•^Ác[Ác@^Á^}çå¦[} { ^}cÈ
ÚGÌ€	Y^æ!Á];[c^&ciç^Á* [ç^•Đ^^Á];[c^&ci[}Ð-æ&^Á];[c^&ci[}È
ÚH€F∂HF€	ùØÁÙ Y ŒŠŠU Y ÒÖKÁQ {
ÚH€GÐH Í G	ũØÁ∪ÞÁÙSQÞKÁΥæ•@Á¸àc@Á] ^}c^Á[-Á•[æ]Áæ}åÁ¸æc^¦È
ÚH€ÍÐHÍFÐHHÌ	0ØÁDÞÁÒŸÒÙKÁÜà}•^Á&æˇċá[ˇ• ^Á¸àc@Á¸æc^IÁ-[¦Á•^Ç^¦æ Á{à}ˇc^•ÉÁÜ^{[Ç^Á&[}cæ&cÁ ^}•^•ÉÁ≟Á]¦^•^\cÁæ}åÁ^æ•^Ác[å[ÉÁÔ[}ċà}ˇ^Á¦à}•å}*É
ÚHF€	Q { { ^åiæc^ ^Å&æ ÁæÁÚUQÙUÞÁÔÒÞVÒÜÁ [¡Áå [&c [¡Ð] @^•i&iæ}È
ÚHHF	Ö[Á}[cÁ3}å~&^Áç[{ &c3}*Ė
ÚHHHÐHFH	Q-Á•\à}Áà¦làcæci[}Á[!Á¦æ•@Á[&&~¦•KÁŐ^cÁ{^åà&æ Áæåçà&^Đæcc^}ci[}È
ÚHHÏÐHFH	0-Á^^Á⦦ācæcā[}Á]^¦●ā●c●KÁÕ^cÁ{^åä&æ Áæåçā&^Ðæcc^}cā[}È
ÚHÎG	Væ\^Á[~Á&[}cæ{i}æc^åÁ& [c@i}*Áæ}åÁ¸æ•@Áà^~[¦^Á¦^`•^È
ÚHÎH	Yæ•@Á&[}cæ{ä}æc^åÁ& [c@ā}*Áà^~[¦^Á¦^~•^É
ÚHJF	Ô[^&ci.•]i æ*^È
ÚI€Í	Ùc[¦^Á [&\^åÁˇ]Ė
ÚÍ€F	Öå•][•^Á[-Á&[}c^}c•B&[}cæi}^\iÁc[Áæ]];[ç^åÅåå•][•æ Á•ãc^ÉÁi}Áæ&&[¦åæ}&^Á¸āc@Á [&æ Ái^*~ æci[}•È
ÙÔŒ	Ù\à}ÁÔ[!![•ā[}ÁÐÁQ!!ācæcā[}ÁÔæc^*[!^ÁG
ÙÙÁF	Ù^}•àcà:æcà[}ÁÉÁÙ\à}ÁÔæc^*[¦^ÁF
ÙÙÁFÓ	Ù^} •ācā : æcā [}ÁĒÁÙ\ā}ÁÔæc^* [¦^ÁFÓ
•	

V@^Aā}~[!{æci[}Aā}Ac@ā•A•æ-^c^AåæcæA•@^^cAi•Ac[Ac@^Aà^•cA[-A['!A\}[,|^å*^Ac!`^Aæ}åAæ&&`!æc^Aà`cAæ||AåæcæÊAā}•c!`&ci[}•Ê!^&[{{^}åæcā[}•Aæ}åB[!A•`**^•ci[}•Aæ}*Ac!`^Aæ}åB[!A•`**^•ci]}•Aæ}