

Gc`VYgi WXYb`G]Y`X]Y` ; U`UdU[cg]bgY`b`a]h
_`Y]bYa`6i X[Yh

K]f`\UVYb`nk Y]a U`ØVYf`Y[hž`X]YgYb`6Y]hfU[`ni`gWfY]VYb`
8]Y` ; U`½dU[cg!`bgy`b`k UfYb`Y]bgh`Y]b`YI _`i`gj Yg`F Y]gYn]Y`ž
ghY`Yb`\Yi hY`YXcW`Ua`5V[fi bX`XYg`A UggYb`hci f]ga`i`g`
K]f`\UVYb`i`bg[YZfU[hž`cV`Dcghg`k]Y`X]YgYf`ni`f`8Yj`c`i`h]cb
X]YgYg`Y]bgh`UV[YgW`]YXYbYb`DUfUX]YgYg`VY]hfU[Yb`"5VYf`
k]Y`k]f`VYfY]hg`]b`l`a`k`Y`hžfYi`bX`]WYf`Hci`f]ga`i`g`Ui`Z`XYb`
 ; U`½dU[cg!`bgy`b`[YgU[h`\UVYbž`]gh`Y]bY`i`bUV`\Åb[] [Y
F Y]gY`]b`X]Y`F Y []cb`k`c`\`i`a`k`Y`hžfYi`bX`]WYf`U`g`Y]b`6Ygi`W
Ui`Z`Y]bYa`%\$\$_ØdZ[Yb`?`fYi`nZU`f`hgW`]Z`"K`Ybb`G]Y`gW`cb`
]a`a`Yf`Y]ba`U`VYgi`WXYb`k`c`hYbž`gc`hYb`G]Y`Yg`gY`Vgh`hi`b`
G]Y`g]bX`b]W`h`bi`f`ZYI`]V`Yfž`gcbXYfb`a`ØggYb`Ui`W`b]W`h`
a`Y`fYfY`hUi`gYbX`9i`fc`ZØf`≠fYb`6Ygi`W`Ui`g[YVYb`"Gc`
\UVYb`k]f`X]Y` ; U`UdU[cg]bgY`b`a]h`_`Y]bYa` / Ua`d`Λ`Y`"d`/

K]f`\UVYb`nk Y]a U`ØVYf`Y[hž`X]YgYb`6Y]hfU[`ni`gWfY]VYb`"8]Y`
 ; U`½dU[cg!`bgy`b`k UfYb`Y]bgh`Y]b`YI _`i`gj Yg`F Y]gYn]Y`ž`ghY`Yb`
\Yi hY`YXcW`Ua`5V[fi bX`XYg`A UggYb`hci f]ga`i`g`"K]f`\UVYb`i`bg
 [YZfU[hž`cV`Dcghg`k]Y`X]YgYf`ni`f`8Yj`c`i`h]cb`X]YgYg`Y]bgh`
UV[YgW`]YXYbYb`DUfUX]YgYg`VY]hfU[Yb`"5VYf`k]Y`k]f`VYfY]hg`]b`
l`a`k`Y`hžfYi`bX`]WYf`Hci`f]ga`i`g`Ui`Z`XYb` ; U`½dU[cg!`bgy`b`[YgU[h`
\UVYbž`]gh`Y]bY`i`bUV`\Åb[] [Y`F Y]gY`]b`X]Y`F Y []cb`k`c`\`
i`a`k`Y`hžfYi`bX`]WYf`U`g`Y]b`6Ygi`W`Ui`Z`Y]bYa`%\$\$_ØdZ[Yb`
?`fYi`nZU`f`hgW`]Z`"K`Ybb`G]Y`gW`cb`]a`a`Yf`Y]ba`U`VYgi`WXYb`
k`c`hYbž`gc`hYb`G]Y`Yg`gY`Vgh`hi`b`"G]Y`g]bX`b]W`h`bi`f`ZYI`]V`Yfž`
gcbXYfb`a`ØggYb`Ui`W`b]W`h`a`Y`fYfY`hUi`gYbX`9i`fc`ZØf`≠fYb`
6Ygi`W`Ui`g[YVYb`"Gc`\UVYb`k]f`X]Y` ; U`UdU[cg]bgY`b`a]h`_`Y]bYa`
6i`X[Yh[YgY`Yb`i`bX`k]Y`G]Y`Yg`Ui`W`_`ØbbYb`"

%" < U`hYb`G]Y`g]W`Ub`X]Y`VYk`c`\`bhYb`bgy`b`

9g\Uh'Y]bYb'[Yk]ggYb'F Y]nžX]Y'i bVYk c\bhYb'đgY`b`ni
VYgi WYb'`Y]bY'5fh'g`U!Bi V`Uf!đ fUgg]WDUf_!7\Ufa Y'`UVYf`X]Yg
]gh'bi f`ja`F U\ a Yb`Y]bYf'?fYi nZU\fh'a Ò[`]W`fK\`gi dYf`hYi YfL'i bX
]gh'Ui W`Y]bYf`XYf`gW`AX`]W`YfYb`5gdY_hY`XYg`Hci f]ga i g`ni a
; YV]Yh"8]Y`VYk c\bhYb'đgY`b`V]YhYb`ZUgh`U`Y`]b`XYf`F Y []cb
\Y]a]gWYb`K]`Xh]YfY`a]h`XYa`ni g`Ah`W`Yb`J c`fhY]`ž`XUgg`X]Y
i bVYk c\bhYb'đgY`b`gc`ZfY]`k]Y`a Ò[`]W`j`cb`A YbgWYb`g]bX"

<]Yf`_ÒbbYb`G]Y`X]Y`VYfØ\ a hYb`H]YfY`XYf`; Y[YbX`gY\Yb"

6`Ui Z] h`dY`6Yk c\bh`@Ug`H]bhcfYfUg`fHgUVY`Už`Di bhU`D]h`fGUb
7f]gh`VU`L`i bVYk c\bh`Bcfh\`GYma`ci fž`9gdUf`c`Už; Ybcj`YgU

: fY[Uhj Ò[Y`6Yk c\bh`Di bhU`D]h`fGUb`7f]gh`VU`ž`HUi WYb`VY]
Bcfh\`GYma`ci f`f]`cb`GUbhU`7fi nL`i bVYk c\bh`Bcfh\`GYma`ci fž
9gdUf`c`U

D]b[i]bY`VYk c\bh`@Ug`H]bhcfYfUg`fHgUVY`Už`:`cfYUbU`i bVYk c\bh
6Ufhc`ca`Ž: YfbUbX]bU

F]YgYbgW]`X_f`ÒhYb`6Yk c\bh`7`Uf`Yg!8`Ufk]b!GhUh]cb`fGUbhU
7fi nLž`Ni W`hnYbhYb`Ui Z`gUVY`U`i bX`GUb`7f]gh`VU`"i bVYk c\bh
9gdUf`c`Už`D]bncb

; fØbY`A`YYfYggW]`X_f`ÒhYb`6Yk c\bh`Hcfhi [U`6Um`fGUbhU`7fi nLž
HUi WYb`VY]`Bcfh\`GYma`ci f`f]`cb`GUbhU`7fi nL`i bVYk c\bh
6Ufhc`ca`Ž; UfXbYf`6Um`f9gdUf`c`Už

@Y[i UbY`6Yk c\bh`A`YYfYW`gYb`Ui Z`U`Yb`[fØ» YfYb`đgY`b`/
@UbX`Y[i UbY`Ub`XYf`7`Uf`Yg!8`Ufk]b!GhUh]cb`fGUbhU`7fi nL
i bVYk c\bh`A`YYfYW`gYb`Ui Z`U`Yb`[fØ» YfYb`đgY`b`/@UbX`Y[i UbY
]b`Bcfh\`GYma`ci fž`Gci h\`D`UnUž`GUbhU`:`Å

GYY`Øk Yb`6Yk c\bh`5`Y`[fØ» YfYb`đgY`b`ž`]bgVYgcbXYfY`@U`g`U`XY
`cg`@c`Vcg`fGUb`7f]gh`VU`ž`Gci h\`D`UnUž`@U`@c`VYfĚ`fGUb`7f]gh`VU`ž
i bVYk c\bh`5`Y`[fØ» YfYb`đgY`b`ž`]bgVYgcbXYfY`7`Ua`d]cb

<U]Y`6Yk c\bh`HUi WYb`j`cb`Bcfh\`GYma`ci f`f]`cb`GUbhU`7fi nLž

@Ycb'8cfa]Xc'fGUb'7f]ghĭ VU`Ł'! bVYk c\bh'6Ufhc`ca Ā

K Y`YbU`VUhf'cg'VYk c\bh'b]W'h'a Ò[`]W'ĭ bVYk c\bh
Ui ggW`]Y» `]W`Ui Z'9gdU' c`U'j cb'5df]'V]g'Bcj Ya VYf'Ubni hfYZZb

&" J Yfk YbXYb'G]Y'ÒZZYbh]W`Y': Ā\ fYbž'ĭ a
nk]gW`Yb'XYb'`bgY`b'ni' fY]gYb

9g']gh'g]W`Yf`]W`b]W`h'ĭ! i f]Òg'ĭ bX'gY]b`YV\UZnYg'K UggYf'fY]W`h
Ui gž'ĭ a'XYb'_fĀZh][ghYb'A U[Yb'ni' fØ\ fYbž'UVYf'X]Y'ÒZZYbh]W`Y
: Ā\ fY']gh'X]Y'V'`][ghY'5fhž'nk]gW`Yb'XYb'`bgY`b'ni' fY]gYb"K]Y'G]Y
XYf'cV][Yb'@]ghY'YbhbY\`a Yb'_ÒbbYbž'_ÒbbYb'G]Y'VY]'Y]bYa
6Ygi W`XYf'<Ui dh]bgY`b'GUbhU'7fi nž'gUVY`U'ĭ bX'GUb'7f]ghĭ VU`
X]Y'a Y]ghYb'K]Xh]YfY'XYf'fY[]cb'gY\Yb"

G]Y'_ÒbbYb'Y]bY': Ā\ fY'nk]gW`Yb'GUbhU'7fi n'ĭ bX'XYb'UbXYfYb
VY]XYb'`bgY`b'Y\`a Yb" H]W_Yhg'_cghYb'ĭ \$`' d'fc'DYfgcb'ĭ bX
GhfYW_Y'ĭ bX'_ÒbbYb']b'Ub[YgY\YbYb'fY]gYVØfcg'Ybh'Ub['XYf
<Ui dhghfU» Yb' [Y_Ui Zh'k YfXYb" J Yfa Y]XYb'G]Y'Y]bZUW`ĭ; U`½dU[cg
A cW_]b[V]fX'Ui Z'GUbhU'7fi nž'XU'g]Y'g]W`U'g'ĭ bni j Yf'Āgg][
Yfk]YgYb'\UVYb`

5i g	Ni	5VZU\ fhgnY]h	5b_i bZhgnY]h
GUbhU'7fi n	GUb'7f]ghĭ VU`	\$+. \$\$	\$- .%)
GUbhU'7fi n	GUb'7f]ghĭ VU`	%(. \$\$	%* .' \$
GUbhU'7fi n	gUVY`U	\$+. \$\$	\$- .' \$
GUbhU'7fi n	gUVY`U	%(. \$\$	%* .%) !%* "" \$
gUVY`U	GUbhU'7fi n	\$* . \$\$	\$. . \$\$
gUVY`U	GUbhU'7fi n	%) . \$\$	%+ .%)
GUb'7f]ghĭ VU`	GUbhU'7fi n	\$+. \$\$	\$- .' \$
GUb'7f]ghĭ VU`	GUbhU'7fi n	%) . \$\$	%+ .' \$' \ f

' "9fk Ā[Yb'G]Yž'j cb'Y]bYf'UbXYfYb'`bgY`
UVni Z]Y[Yb

K]f'\UVYb']b`YhnhYf'A]bi hY'<]b! 'ĭ bX'FØW_ZØ[Y'[Y_Ui Zh
f] i UmUei]'bUW'6U'hfU'j cf'GUbhU'7fi nž'%Ghi bXY') \$'A]bi hYbŁž

X]Y' (\$\$ '8 c`Uf'dfc'DYfgcb'_cghYb"G]Y'_ÖbbYb'k U\fgWXY]b'jW
Ui WXY]bYb'[i hYb'FUVUhh'Yf\U'hYbž'k Ybb'G]Y'k Y]h]a'JcfUi g
Vi WXYb"l bgYfY': fYi bXY]'b'XYf'5]f`bY!6fUbWXY'gU[Yb'i bgž'XUgg
ZØbZK cWXYb]a'JcfUi g'Y]b'[i hYf'NY]hdi b_h'ni a'6i WXYb']gh"

I a'Y]bY'ni gÅh'jWXY'F Y]gY'nk]gWXYb'XYb'ðgY'b'ni'gdUfYbž'gc`hYb
G]Y'bUW'6U'hfU'fGUbhU'7fi nŁ'i bX'j cb'GUb'7f]gh'VU'Ui g'Z]Y[Yb"
5i ZX]YgY'K Y]gY'a ØggYb'G]Y'b]WXYh'Yi hfU'bUW'GUbhU'7fi n
ni fØW_Z]Y[Ybž'i a'UVni Z]Y[Ybž'i bX'gdUfYb'` '\$'dfc'DYfgcb
fbi Wxi b['ØVYf'g_mgWUbbYf"bYhŁ"

9fk Å[Yb'G]Y': c'[YbXYg.

'U'h1 ; U'UdU[cg! ðgY'b!? UfhY!8C!X]Yg 2

Ub'GhY`Y'j cb.

'U'h1 ; U'UdU[cg! ðgY'b!? UfhY!HI B!XUg!b]WXYh 2

' "'J Yfk YbXYb'G]Y': U\ffÅXYfž'i a'g]W
Zcfhni VYk Y[Yb

: U\ffÅXYf'g]bX'Y]bY'[Øbgh][Y'i bX'i a k Y'hžFYi bX']WXY'5fh'XYf
: cfhVYk Y[i b["'9g'[]Vh'a Y\fyfY'cfhY'Ybh'Ub['XYf'<Ui dhghfU» Ybž
X]Y'g]Y'ZØf'XYb'[Ubnyb'HU['ZØf'i b[YZÅ\f'+ 'l G8'dfc'DYfgcb
j Yfa]YhYb"

("'; Øbgh][Y' l bhYf_ØbZhY'Ui gfc hhYb

A Ò[`]WXYfk Y]gY'a ØggYb'G]Y'Yhk Ug'Ui » Yf\U'V'XYg'GhUXhnYbhfi a g
V'Y]VYbž'UVYf'Yg']gh'a Ò[`]WXYžY]bY'[Øbgh][Y' l bhYf_i bZh'Ui ZXYb
; U'½dU[cg! ðgY'b'ni 'Z]bXYb"

K]f'Ya dZY\`Yb.

GUbhU'7fi n; U'½dU[cg'8cj Y.' '\$'l G8'dfc'BUWXYh'ZØf'Y]b
8cddY'n]a a Yf'f%\$'; Y\ a]bi hYb'Ui » Yf\U'V'XYf'GhUXhž'UVYf

gUi VYf'i bX`_ca ZcfhUVY`a]h`Y]»Yb`8i gWYbŁD`UbYh<ci gY.`) \$
l G8`dfc`BUW`h`ZØf`Y]b`8cddY`n]a a Yf`fgUi VYfž`_ca ZcfhUVY`ž`bYhhY
6Yg]hnYfŁ

GUb`7f]ghĭ VU`7UgU`XY`@Yk]g.`(\$`~`dfc`BUW`h`ZØf`Y]b
8cddY`n]a a Yf`<chY`A Uf`5ni `.) \$`~`dfc`BUW`h`ZØf`Y]b
8cddY`n]a a Yf`

⇒UVY`U<cghU`7Yffc`5ni `.`()`~`dfc`BUW`h`ZØf`Y]b`8cddY`n]a a Yf`
7UVUbUg`HYfc`FYU`.`()`~`dfc`BUW`h`ZØf`Y]b`8cddY`n]a a Yf`

) ``HUb`_Yb`G]Y`VY]a`A]hhU[YggYb`Ui Z

A]hhU[YggYb`]ghY]bY`[fc»Y`GUWY`]b`9W UXcf``8]Y`a Y]ghYb
`c`_U`Yb`FYghUi fUbhg`V]YhYb`Y]b`5`a i Yfnc`ZØf`bi`f`Y]b`dUUF
8c`Uf`Ub``8Uni`[Y\Øfh]b`XYf`FY[Y`Y]b`A YbØ`VYghY\YbX`Ui g
Gi`ddYž`<Ui`dh[Yf]W`h`i`bX`; Yhf`Åb`_`JY[YhUf]Yf`gc``hYb`g]W`]a a Yf
j`cf\Yf`Yf`_i`bX][Ybž`cV`Yg`Y]b`dUggYbXYg`; Yf]W`h`[]Vh`K`Ybb`G]Y
XUg`A]hhU[YggYb`Ui ZX]Yg`Y`K`Y]gY`Ui ZØ`Ybž`_ØbbYb`G]Y`UVYbXg
Y]bYb`_`Y]bYb`GhfU»YbgbUW`_ni`g]W`bY\`a`Yb`fj`Yfgi`W`Yb`G]Y`X]Y
7\Uf`Yg`6]bZcfX`F`cUX`Ui Z`GUbhU`7fi`n`U`g`5i`g[Ub[gdi`b`hŁ

* ``A UWYb`G]Y`bi`f`Y]bY`Hci`f`dfc`⇒bgY`

8]Y`a Y]ghYb`GY\Yb`gk`ØfX][`_Y]hYb`Ui Z`XYb`⇒bgY`b`_ØbbYb
Yb`hk`YXYf`a`]h`XYa`HUI`]cXYf`a`]h`XYa` : U\ffUX`YffY]W`h`k`YfXYbž
gc`XUgg`Yg`b]W`h`b`ch`k`YbX][`]ghž`Y]bY`hYi`fY`Hci`f`ni`_`Ui`ZYb``⇒
6Yni`[`Ui`Z`5`_hj`]h`hYb`Ui`Z`K`UggYfVUg]g`a`ØggYb`G]Y`Y`X`c`W
k`U\fgW`Y]b`]W` ; Y`X`Ui`g[YVYb``⇒`X]YgYa` : U``_ca`a`Yb`G]Y`a`]h
bi`f`Y]bYa`5i`gZi`[`dfc`⇒bgY`Ui`g`

K]f`Ya`dZY`\Yb.GUbhU`7fi`n.`HUi`W`Yb`B`cfh`\GYma`ci`fi`bX`8Ud\bY
⇒`UbX`f`B`W`XYa`m`6UmŁGUb`7f]ghĭ`VU`.`HUi`W`Yb`c`XYf`GW`bcfW`Y`b
Ua`@Ycb`8`cfa`]Xc`U`_`U`?`]W`Yf`F`cW`_f`K`fYW`_`6Um`8`j`]b[
7Yb`hYfŁ⇒UVY`U.`GW`bcfW`Y`b`VY]`@cg`Hi`bY`Yg`c`XYfž`k`Ybb`G]Y
k`]f`_]W`D]b[`i`]bY`gY\Yb`k`c`Ybž`@Ug`H]bhcfYfUg`f`F`chY`A`Ub[`fcj`YŁ

K`Ybb`G]Y`Y]b`gY\`f`_bUddYg`6i`X[Yh`\UVYbž`gc``hYb`G]Y`Yg

j]Y`Y]W\hV]g'ni a `J cfUVYbX`cXYf`gc[Uf`V]g'ni a `A cf[Yb`k UfhYb
`UggYbž'i a `ni `gY\Ybž`cV`G]Y`]b`YhnhYf`A]bi hY`Y]b`GWb`AddWYb
a UWYb`_`ObbYb`"GWYi Yb`G]Y`g]W\`b]W\hž`ni `j Yf\UbXY`b`"K Ybb
l bhYfbY\`a Yb`Y]b`6cch]b`VY]XY`F]W\hi b[Yb`bY\`a Ybž`]gh`Yg`]b
]\fYa `VYghYb``hYfYggYž`X]Y`?UdUn]h`h`ni `Z0`Yb`°

; YgUa hVi X[Yh`dfc`DYfgcb

<]bk Y]g.`6Y]b\U`hYh`_Y]bY`]bhYfbUh]cbU`Yb`:`0[Y`j`cb`i`bX`bUW
9W UXcfž`À\b`]W\`k]Y`VY]`XYb`a`Y]ghYb`?fYi`nZU\`fhdU`_YhYb`"

!hÅ[][Y`F`Y]gY.

- <]b!`i`bX`F`0W_Zi`[`j`cb`i`i`UmUei`]`bUW`6U`hfU`g`UbX`j`cf`GUbH`7fi`n.`(\$`\$`~`
- l`bhYf`_i`bZi`Z0f`bYi`b`B`ÀW`hY.`~`%+) `dfc`DYfgcbž`k`Ybb`g]Y`j`cb`nk`Y]`DYfgcbYb`[`YhY]`h`k`]fX`
- 9ggYb.`~`%)`\$`fYg`]gh`a`0[`]W\`Z0f`~`%)`dfc`HU[`]ni`YggYbŁ`
- :`À\`fYb.`%&\$`~`Z0f`j`]Yf`:`U\`fhYb`a`]h`XYf`:`À\`fY`
- 9]bhf]hng[`YV0\`f`Z0f`K`UggYfhU]`]g`i`bX`gUVY`U.`%)`~`
- DUf`_Y]bhf]h`%\$`\$`~`
- 9]bk`UbXYfi`b[`g[`YV0\`f.`&\$`~`
- 5i`gZ0[`Y.`~`&)`\$`

; YgUa h`%"&'`\$`~`dfc`DYfgcb`fWU"`,`\$\$`;`6DŁ`

J Yf[`Y]W\Yb`G]Y`X]Yg`a`]h`XYb`;`U`½dU[`cg!`9l`dYX]h]cbYb`j`cb`i`;
5Xj`Ybhi`fYg`i`bX`G]Y`k`YfXYb`gY\Ybž`XUgg`G]Y`gY`Vgh`VY]`XYf`
[`0bgh][`ghYb`Hci`f`a`]bXYghYbg`%"\$\$\$`l`G!8c`Uf`gdUfYb`°

@cbY`m`D`UbYh`9W`UXcf`/`X]Y`;`U`UdU[`cg!`h`gY`b`V]YhYh`Ui`W\`H]ddgž`
k`]Y`G]Y`X]Y`;`U`UdU[`cg!`h`gY`b`a`]h`_`Y]bYa`6i`X[`Yh`VYgi`W\Yb`
_`ObbYb`"

@Y]hV]`X.`5h`Ug`/`6cchg`

8YhU]`g

6Ygi W\Yb`G]Y`i bg`Ui Z.`Y]bY!fY]gY"XY