

8 Yf'7\cf. '6Y[Y[bi b[Yb']a 'K U`X nk]gW\Yb '? cbhfc`Y'i bX'7\Ucg

5bbU'?Uh\Uf]bU'<U\bg'Fca Ub' 8Yf'7\cf 'VY`Yi W\hYh'XUg
GdUbbi b[gZY`X'nk]gW\Yb '? cbhfc`Y'i bX'7\Ucg'a '5`hU[
Y]bYf'A UbU[Yf]b"

⊕'Y]bYa 'ZUgn]b]YfYbXYb''hYfUf]gW\Yb'GW\UW\ ni ['YbhZØ\fh'5bbU
'?Uh\Uf]bU'<U\ b']\fY '@YgYf']b'X]Y'i b_cbj Ybh]cbY`Y'K Y'hj cb' 8Yf
7\cf "'<]Yf'k]fX'XUg '@VYb'XYf'gY`VghVYk i gghYb'A UbU[Yf]b'5`]W
Ui ZXYb'?cdZ[YghY`hž'U`g'g]Y`VY]a 'G]b[Yb'Y]bYf'ghi XYbh]gW\Yb
7\cf[Ya Y]bgW\UZh'VY[Y[bYh'i bX'g]W\ 'i bj YfgY\Ybg']b'Y]bYf
i b_cbhfc`Y]fVUfYbž'W\Uch]gW\Yb'FYU`]hÅ'h'k]YXYfZ]bXYh"8 Ug
; YgW\Y\Yb'gd]Y'h]b'XYf'l a [YVi b['j cb'Ghi hh[Ufhi bX'nY][hž'k]Y
XØbb'X]Y'K UbX'nk]gW\Yb'XYf'N]j]]gUh]cb'i bX'XYf'i b[YVÅbX][hYb
BUhi f'gY]b'_Ubb"

8Yf'Fca Ub'YbhZU'hYh'g]W\ 'Ua 'F UbXY'XYf'Ghi hh[UfhYf'@UbXgW\UZhž
k c'j YfhfUi hY'CfXbi b[Yb']b'Y]bYa ' ; Yk]ff'Ui g'l bhYf\c`n'i bX'9ZYi
j YfgW\k]bXYb"8]Y'DfchU[cb]gh]bž'Y]bY'_Uff]YfYcf]Ybh]YfhY
DYfgcbU'a UbU[Yf]bž[Yk Ø\bh'g]W\ 'Ub'Y]b '@VYb'j c`Yf'FY[Y'b
i bX'Fci h]bYž'V]g'g]Y'j cb'Y]bYf'↑ b[Yb'Ghi XYbh]b'a]h'Y]bYf
j YfZØ\Yf]gW\Yb'5i gghfU\`i b['YbhZØ\fh'k]fX"8]YgY'Ghi XYbh]bž
Gcd\]Yž'a]h']\fYa 'i b_cbj Ybh]cbY`Yb'@cc_' '8fYUX`cW_gž[fcVY
Gh]YZY`i bX'Y]bYa '6]bX]' ghY`h'U`Y [Yk c\bhYb'gcn]U'Yb'Bcfa Yb
Ui ZXYb'?cdZ'5`]Wž'X]Y']b'Y]bYf'Xi fW\ghfi _hi f]YfhYb'K Y'h`YVhž
Z]bXYh'g]W\ 'b'Y]bYf'bYi Ybž'W\Uch]gW\Yb'l a [YVi b['k]YXYfž'X]Y
g]Y'b]W\h'[Ubni'ni 'VY[fY]ZYb'gW\Y]bh"

8 Ug'5i ZY]b UbXYfhfYZZYb'XYf'; YbYfUh]cbYb

⊕ : fUi YbW\cfž'k c'5`]W`i bX'Gcd\]Y'Ui ZY]b UbXYfhfYZZYbž

dfÅgYbh]Yfh'g]W\XUg'Ni gUa a Ybgd]Y`XYf'7\UfU_hYfY
j]Y`gW\W\h] ["8]Y`nUi VYf\UZhY`A Y`cX]Y`XYg'7\cf[YgUb[g`_Ubb`X]Y
h]YZb`F]ggY`b`XYb`6Yn]Y\i b[Yb`YXcW`b]W\h`_UgW\YfYb`", VYf
X]Y`[Ya Y]bgUa Yb`9fZU\fi b[Yb`k Å\fybX`XYf`DUbXYa]Y`YbhghY\h
Y]bY`hfØ[Yf]gW\Y`J YfVi bXYb\Y]hink]gW\Yb`XYb` : fUi Ybž`X]Y`j cb
i bhYfgW\YX`]W\Yb`@VYbYbgfYU`]hÅhYb`[YdfÅ[h]gh"5`]W`a i gg`g]W
XYb` ; fÅVYb`ghY`Ybž`X]Y`nk]gW\Yb`XYb`A ØhYfb`i bX`XYb
_]bXYf`cgYb` : fUi Yb`VYghY\Ybž`i bX`Yf`_Ybbhž`XUgg`]\fY
j cf\Yf[Y\YbXYb`5bbU\ a Yb`ØVYf` ; `ØW`_i bX`9fZØ`i b[`VfØW\ []
g]bX"

5`g`g]W`5`]W`i a `Gcd\]Y`_Øa a Yfhž`i a `]\fY`GYa]bUfUfVY]h`ni
7`Ya Ybg`6fYbhUbc`ni`i bhYfghØhYbž`YbhZU`hYb`g]W`]b`X]YgYf
6]bXi b[`i bYfk UfhYhY`fca Ubh]gW\Y`i bX`dgmW\c`c[]gW\Y
8]a Ybg]cbYb`"8]Y`?`i Zh`nk]gW\Yb`]bYb`j YfXYi h]W\h`X]Y
i bhYfgW\YX`]W\Yb`DYfgdY`_hj Yb`Ui Z`@VYbYgg]bb`i bX`HfUi Yf`
5`]W`g`Y][YbY`9\Y`Y]XYh`i bhYf`XYf`Ya`ch]cbU`Yb`@Ugh]Yf[Ub[YbYf
?]bXYfk i bgW\VY\UbX`i b[Ybž`k Ug`X]Y`J YfV]bXi b[`ni`Gcd\]Y
bcW`_ca`d`n]YfhYf`a UW`h`"ΔfY`GY\bgi W\h`bUW`Y]bYf
i bVYgW\k YfhYb`?]bX\Y]h`i bX`Y]bYa`Y][YbYb`?]bX`ghY\h`]a
A]hY`di b`h`]\fYf`]bbYfYb`?cbZ`_hY"

8]Y`Ghfi _hi`f`XYg`Fca Ubgi bX`X]Y`8UfghY`i b[`XYf`6Yn]Y\i b[Yb
g]bX`a Y]ghYf\UZh`[YghU`hYh`"9g`k]fX`b]W\h`bi f`Y]bY` ; YgW\]W\hY`XYg
7\Ucg`YfnÅ`hž`gcbXYfb`Ui W`j cb`XYb`nYfVfYW`]W\Yb` : ÅXYbž`X]Y
a YbgW`]W\Y`6Yn]Y\i b[Yb`ni gUa a Yb`U`hYb`_ØbbYb`"8Yf`5i hc]b
[Y`]b[h`Ygž`XYb`@YgYf`]b`XUg`ϕbYb`VYb`]YfYf` :][i fYb
Y]bni ZØ\fyb`i bX`[fi bX`Y[YbXY` : fU[Yb`ni`X`Ybh]hÅ`h`i bX
@VYbYgg]bb`Ui Zhi`k YfZYb`"9g`]gh`XYf`dYfZY`_hY`FU\ a Ybž`i a
XUfni ghY`Ybž`k]Y`g]W`]a`?`Y]bYb`Ui W`X]Y`[fØ`hYb`@VYbYgZfU[Yb
UVgd]Y`Yb`_ØbbYb"

8i fW`XYb`dfÅn]gYb`9]bgUhn]j cb`Gma`Vc`_]`i bX`h]YZb
dgmW\c`c[]gW\Yb`9]bg]W\hYb`k]fX`Yf`Åi`hYfhž`k]Y`X]Y
5V[fYbni b[Yb`nk]gW\Yb`Bcfa`U`]hÅ`h`i bX`DUh\c`c[]Y`j Yfk]gW\h
k YfXYb`"8Yf`@YgYf`VY[`Y]hYh`5`]W`Ui Z`]\fYf`F`Y]gY`Xi`fW
Ya`ch]cbU`Y`i bX`d`mg]gW\Y`i b[Yk]gg\Y]hYbž`X]Y`ni`Y]bYf
9bhXYW`_i b[`XYf`Y][YbYb`X`Ybh]hÅ`h`ZØ\fyb`"8]Y`<Ufa`cb]Y`XYg

7\c f g'ghY\h]b`Y]bYa`_fUggYb`; Y[YbgUhn`ni`XYb`]bbYfYb
Hi fVi`YbnYbž`X]Y`X]Y`7\UfU_hYfY`d`U[Yb"

A]h`Y]bYa`gW\UfZYb`6`]W_`Ui`Z`a`YbgW\`]W\Y`6Yn]Y\`i`b[Yb`]b
?f]gYbnY]hYb`i`bhYfghfY]W\h`<U\`b`X]Y`_ca`d`YI`Y`J`YfV]bXi`b[
nk`]gW\Yb`A`UW\hž`J`Yf`i`gh`i`bX`B`Yi`cf]Ybh]Yfi`b[" " 8Yf`7\cf` "]gh
gca`]h`b]W\h`bi`f`Y]bY`; YgW\]W\hY`ØVYf`; fUi`Yb`i`bX`XYfYb
6Y[Y[bi`b[Ybž`gcbXYfb`Ui`W\`Y]b`Gd]Y[Y`V]`X`XYf`g]W\
k`UbXY`bXYb`[YgY`gW\UZh`]W\Yb`Bcfa`Yb`i`bX`XYf
<YfUi`gZcfXYfi`b[Ybž`X]Y`X]Y`DUbXYa`]Y`dfÅgYbh]YfhY`"Gc`k`]fX`X]Y
@]hYfUhi`f`ni`f`6Ø\`bY`ZØf`; YZØ\`Yž`X]Y`k`YXYf`YI`U_h`VYbUbbh`bcW\
j`c`ghÅbX][`j`YfghUjXYb`k`YfXYb`_ØbbYb"

5bbU`?`Uh\Uf]bU`<U\`b`[Y`]b[h`Ygž`]b` 8Yf`7\cf`X]Y`; fYbnYb
nk`]gW\Yb`HfUi`a`i`bX`K`]f`_]W\`_Y]h`Ui`Zni`nY][Yb`"9g`]gh`Y]b`6i`W\
ØVYf`XUg`5VYbhYi`Yf`XYg`@YVYbgž`X]Y`?`cbZfcbhUh]cb`a`]h`XYa
I`bVY`_UbbhYb`i`bX`X]Y`; fU[]]hÅh`a`YbgW\`]W\Yf`6Yn]Y\`i`b[Yb`"
F]W\UfXg`?`Åa`a`Yf`]b[g`F`YU`_h]cb`Ui`Z`X]YgY`9fnÅ\`i`b[`a`UW\h
XYi`h`]W\ž`XUgg`X]Y`5i`hcf]b`Yg`j`YfghY\hž`Ui`Z`Y]bXf]b[`]W\Y`K`Y]gY
h]YZ]b`X]Y`GYY`Y`]fYf`7\UfU_hYfY`UVni`hUi`W\Yb`i`bX`X]Y`@YgYf`Ui`Z
Y]bY`Ya`ch]cbU`Y`F`Y]gY`ni`YbhZØ\`fYb"

8YhU]`g

6Ygi W\Yb`G]Y`i`bg`Ui`Z.`b!U["XY