

8]U`Y_hY`cXYf`FY[]c`Y_hY.`K Ug`dfÀ[h i bgYfY`GdfUWXY`k]f_`]WX3



8 Yi hgWX `Ub X '! '8]Y `XYi hgWX Y `GdfUWX Y `]ghij]Y `ZÀ`h]['i b X `fY]WX `Ub j YfgWX]Y XY b Yb `GdfUWX j Uf]Ub hY b z `X]Y `i bgY fY `fY[]c b U `Yb \

XY b h]hÀ hY b `dfÀ[Yb" '5 ``Yb ij c fUb `ghY\ Yb `X]Y `8]U `Y_hY z `X]Y `Xi fWX]\ fY `ghUf_Yb `fY[]c b U `Yb `I b hY fgWX]Y XY `i b X `Y][Yb ghÀb X][Y 9b hk]W_`i b[`ØV Yf `\J\ f\ i b XY fhY `WX UfU_hY f]g]Y fh `g]b X " @Ui h `H! C b `]b Y `g]b X `8]U `Y_hY `k]Y `6 UmY f]gWX z `GWX k ÀV]gWX `c XY f `GÀWX g]gWX b]WX h `ghUb XUfX]g]Y fh `i b X `_ObbYb 'j c b `8 c fZ `ni `8 c fZ j Uf]]Y fY b " 8]Y gY `GdfUWX Zc fa Yb `gd]Y[Y`b `X]Y `_i `hi fY ``Yb `6 Y gc b XY f\ Y]hY b]\ fY f' < Yf_i b ZhgfY[]c b `k]XY f"

 $\label{eq:continuous} $$ VYf^*XYb^*8]U^Y_hYb^*ghY^Yb^*X]Y^FY[]c^Y_hY''^8]YgY^ghY^Yb^Y]bYNk]gWXYbghi ZY^nk]gWXYb^8]U^Y_hYibX^< cWXXYihgWX^XUf^ibXYbhghY^Ybz^kYbb^8]U^Y_hgdfYWXYf^]\fY^GdfUWXY^Ub^XUg$

<cWXXYi hgWXY 'UbdUggYbž'UVYf'XYbbcWX 'fY[]cbU`Y'9][Yb\Y]hYb
VY]VY\U`hYb"'9]b'VY`]YVhYg'6Y]gd]Y`'XUZØf']gh'XUg'Fi\fXYi hgWXž
XUg'<cWXYi hgWX'Xca]b]Yfhž'YXcWX'a]h'6Y[f]ZZYb'k]Y' K Uh 'i bX
?ca a gY 'Ui Zk UfhYh"'8]Y'5bdUggi b[Yb'XYf'GdfUWXY'g]bX'b]WXh
bi f'Y]b'NY]WXYb'XYg'K UbXY`gž'gcbXYfb'Ui WX'Y]b'\danka\X]_Uhcf'ZØf'X]Y
A cV]`]h\h'XYf'A YbgWXYbž'X]Y'Xi fWX'Ni k UbXYfi b['i bX
A YX]Ybbi hni b['j cfUb[Yhf]YVYb'k]fX"</pre>

GdfUWXjUf]YhÀhYb i bX]\fY 6YXYi hi b[

 $8]Y'J]Y`ZU`h`XYf`XYi hgWXYb`GdfUWXY`i a ZUggh`b]WX h`bi f`8]U`Y_hYi bX`FY[]c`Y_hY"`5i WX`Gcn]c`Y_hYž'X]Y`gdfUWX`]WXYb 5i gXfi W_gZcfa Yb`VYgh]a a hYf`gcn]U`Yf`; fi ddYbž`gd]Y`Yb`Y]bY nYbhfU`Y`Fc``Y"`@Ui h`? bck i b]hm`g]bX`VY]gd]Y`gk Y]gY <math display="block"> \Rightarrow [YbXgdfUWXY`i bX`Yh\bc`Y_hU`Y`GdfYWXkY]gYb`k]Y \\ + |Wf_YbXYi hgWX `k]WXh][Y`: cfa Yž'X]Y`g]WX`]bZc`[Y`gcn]U`Yf 8 mbUa]_Yb`Ybhk]W_Y`h`\UVYb"`<]YfVY]`nY][Yb`g]WX`_fYUh]j Y K cfhgWX`OdZ b[Yb`i bX`XYf`9]bZi gg`j cb`5b[`]n]ga Yb"$

8]Y'8YZ]b]h]cb'j cb'GdfUW,j Uf]YhÀhYb'i a ZUggh'U``Y
i bhYfgW,]YX`]W, Yb'9fgW, Y]bi b[gZcfa Yb'Y]bYf'GdfUW, Yž'X]Y'g]W,
bUW, 'fY[]cbU`Ybž'gcn]U`Yb'cXYf'Zi b_h]cbU`Yb'?f]hYf]Yb
i bhYfgW, Y]XYh"'9]b'VYa Yf_Ybgk YfhYf'DfcnYggž'XYf'U``Y'6YfY]W, Y
XYf'GdfUW, Y'VYhf]ZZhž']gh'XYf'GdfUW, k UbXY`"'6YgcbXYfg']a
K cfhgW, Uhn'nY][h'g]W, 'X]YgYf'K UbXY`ž'k Ybb'bYi Y'6Y[f]ZZY
YbhghY\Yb'i bX'U`hY'j YfgW, k]bXYb"'@]b[i]ghYb'VYhfUW, hYb'X]YgYb
K UbXY``U`g'bUhØf`]W, Yb'9bhk]W_`i b[gdfcnYggž'cVk c\``X]Y'8YVUhhY
i a 'GdfUW, k UbXY``cZh'Ya ch]cbU``[YZØ\fh'k]fX"

5 ``hU[qqdfUWX Y i bX I a [Ub[ggdfUWX Y

Ni gàhn`]W\ 'ni 'XYb'VYfY]hg'[YbUbbhYb'GdfUW\j Uf]UbhYb'Yl]gh]YfYbUi W\ '5``hU[ggdfUW\Y'i bX'l a [Ub[ggdfUW\Y'z'X]Y'k Yb][Yf'Zcfa U`g]bX'i bX'cZh']b'a ØbX`]W\Yb'?ca a i b]_Uh]cbgg]hi Uh]cbYb'ni a 9]bgUhn'_ca a Yb"'Ghi XmZ`]l 'VYgW\fY]Vh'5``hU[ggdfUW\Y'U`gY]bZUW\YfY'GdfUW\j Uf]UbhYz'X]Y'_ØfnYfY'GàhnY'i bX'Y]bZUW\YfY K ÒfhYf'j Yfk YbXYh"'8]YgY'5fh'XYf'GdfUW\Y'k]fX'\ài Z][']b cZZ]n]Y``Yb'G]hi Uh]cbYbz'k]Y'Yhk U']b'FYghUi fUbhg'cXYf

=a '5``hU['\]b[Y[Yb'k]fX'X]Y'I a [Ub[ggdfUW\Y'VYj cfni [hž'X]Y'ni Y]bYf'`cW_YfYb'; YgdfÀW\gZØ\fi b['a]h': fYi bXYb'i bX': Ua]`]Y Y]b`ÀXh"' =b 'VY]XYb'J Uf]UbhYbž'XYf'5``hU[ggdfUW\Y'i bX'XYf I a [Ub[ggdfUW\Yž'_ObbYb'6i W\ghUVYb'cZhj YfgW\`i W_h'k YfXYbž i a 'XYb'; YgdfÀW\gZi gg'ni 'Yf`Y]W\hYfb"'Gc`W\Y'GdfUW\Zcfa Yb Z]bXYb'Ui W\j Yfa Y\fh']b'GcW]U``A YX]U'i bX'7\UhgdfUW\Y 5bk YbXi b[ž'k cXi fW\'g]Y'HY]``XYf'a cXYfbYb ?ca a i b]_Uh]cbg_i `hi f'k YfXYb"

8 U\Yf'gd]Y[Y`h'X]Y'GdfUW\kY]gY'Y]bYf'DYfgcb'b]W\h'bi f']\fY <Yf_i bZh'k]XYfž'gcbXYfb'Ui W\XX]Y'gcn]U`Y'⇒XYbh]hÀh'i bX'XYb 9]bZi gg']\fYg'I a ZY`XYg"'8Yf'JYf`i gh'j]Y`Yf'8]U`Y_hY'Xi fW\X]Y ni bY\a YbXY'9]bZi ggbU\a Y'j cb'<cW\XYi hgW\']b'GW\i `Yb'i bX 6Yfi Zg`YVYb'k]fX'U`g'dfcV`Ya Uh]gW\'VYhfUW\hYhž'XU'Yf'X]Y'J]Y`ZU`h XYf'XYi hgW\Yb'?i`hi f'[YZÀ\fXYh"

8YhU]`g	
Cfh	8 Yi hgWX`UbX
EiY``Yb	• k k k "h!cb`]bY"XY
	• _bckib]hm"XY
	• ghi XmZ`]l "XY

6Ygi WXYb G]Y i bg Ui Z. b!U["bYh