

NY]hnYi [Yb XYf 9| dYX]h]cbga cXY. GYYa Ubbgdi ``cj Yf]a '5YfcbUi h]W a

9bhXYW_Yb^G]Y^]a ^5YfcbUi h]W a ^nY]h`cgY^?`Y]Xi b[^XYf Dc`UfZcfgWXi b['j cb^%- ' %'i bX^YfZU\fYb^G]Y^a Y\f^ØVYf^X]YgY gdUbbYbXY^9I dYX]h]cb"

=a '5YfcbUi h]W a ']b 'BcfX\c`nž'Y]bYa 'A i gYi a ž'XUg'X]Y gdUbbYbXY'; YgW\]W\hY'XYf'@ ZhZU\fh'i bX'X]Y'A Uf]bYZ]Y[YfY] VY'Yi W\hYhž'g]bX'nk Y]'VYgcbXYfY'CV'Y_hY'ni 'Z]bXYb"' =b 'Y]bYf [`ÀgYfbYb'J]hf]bY'fi \Yb'Y]b 'GYYa Ubbgdi ``cj Yf'i bX'Y]b K c``gW\U`ž'VY]XY']b'Y]bYa 'UbgdfYW\YbXYb'[fUi V`Ui !k Y]»! a Y`]YfhYb'8Yg][b"'8]YgY'?`Y]Xi b[gghØW_Y'g]bX'b]W\h'bi f a cX]gW\Y'NY]hnYi [Ybž'gcbXYfb'Ui W\'HY]`'Y]bYf'ZUgn]b]YfYbXYb k]ggYbgW\UZh`]W\Yb'FY]gYž'X]Y']a '\\\\f'%-' %'ghUhhZUbX"

9]b 6`]W_]b X]Y J Yf[Ub[Yb\Y]h

8]Y'5i gghY``i b['\YVh'\Yfj cfž'k]Y'k]W\h]['X]Y'6Y_`Y]Xi b['ZØf'X]Y 9I dYX]h]cbghY]`bY\a Yf'k Ufž']bgVYgcbXYfY'Ub[Yg]W\hg'XYf \YfUi gZcfXYfbXYb'I a [YVi b[ž']b'XYf'g]Y'hÀh]['k UfYb"'8Yb 6Ygi W\Yfb'k]fX'_`Ufž'XUgg'YXYg'?`Y]Xi b[gghØW_'ZØf'X]Y 6YX]b[i b[Yb'XYf'Dc`UffY[]cb'gcf[Z\handa'h]['Ui g[Yk \handa'h'k i fXY"'8]Y A UhYf]U`]Yb'k UfYb'XUfUi Z'Ui g[Y`Y[hž'X]Y'9I dYX]h]cbghY]`bY\a Yf $\label{thm:cf:XYb:YIhfYaYb:KYhhYfVYX]b[ib[Yb:ni:gWXØhnYbž:k\A\fYbX:g]Y[Y]WXnY]h][YkA\fhYb"$

8]Y '9]bV']W_Y']b'X]Y'? 'Y]Xi b['XYf'9I dYX]h]cbghY]'bY\a Yf'j cb %-' %'g]bX'Y]b'VYgcbXYfg']bhYfYggUbhYf'5gdY_h'XYf'GUa a `i b["8]YgY'? 'Y]Xi b[gghØW_Y'g]bX'b]W\h'bi f'Zi b_h]cbU'ž'gcbXYfb'g]Y YfnÀ\'Yb'Ui W\'; YgW\]W\hYb'j cb'a i h][Yb'A YbgW\Ybž'X]Y k]ggYbgW\UZh`]W\Y'9bhXYW_i b[Yb'a UW\Yb'k c``hYb"'G]Y'ghY\Yb gma Vc`]gW\'ZØf'XYb'D]cb]Yf[Y]gh'i bX'X]Y'9bhgW\`cggYb\Y]h'XYf : cfgW\Yfž'X]Y'VYfY]h'k UfYbž'g]W\'XYb'k]Xf][ghYb'6YX]b[i b[Yb'ni ghY``Ybž'i a 'bYi Yg'K]ggYb'ni 'Yf`Ub[Yb"

8]Y 5ha cgd\àfY]a 'AigYia']ghij cb'9\fZ fWkh'[Ydfà[hžk Ybb 6Ygi WkYf Xi fWk'X]Y '5i gghY ``i b['gWk'YbXYfb'i bX'g]Wk'j cfghY ``Ybžk]Y 'XUg'@YVYb'XYf'9I dYX]h]cbghY]`bY\aYf'[Yk YgYb'gY]b'aigg" 6Y]'XYf'6YhfUWkhi b['XYf'gcf[Zà`h]['d`Uhn]YfhYb'CV'Y_hY'k]fX'X]Y JYfV]bXi b['nk]gWkYb'JYf[Ub[Yb\Y]h'i bX'; Y[Ybk Ufh'VYgcbXYfg XYi h`]Wk"'<]Yf'k]fX'XYi h`]Wkž'k]Y'X]Y'hYWkb]gWkYb <YfUi gZcfXYfi b[Yb'i bX'a YbgWk`]WkYb'6YghfYVi b[Yb']b'XYf @ ZhZU\fh`Ub[Zf]gh]['j cb'6YXYi hi b['g]bX"

8]Y'JYfV]bXib['jcb'@iZhZU\fh'ibX 9bhXYW_ib[

8 Ugʻ5YfcbUi h]W a ʻ]ghʻb]W hʻbi fʻY]bʻC fhʻXYgʻ@YfbYbgʻØVYfʻX]Y @i Zhiʻi bXʻF Ui a ZU\fhhYW b]_žʻYgʻ]ghʻUi W ʻY]bʻC fhžʻXYfʻ; YgW]W hYb j cbʻ9bhXYW_i b[ʻi bXʻ5VYbhYi YfʻYfnÀ\`h"8]Yʻj cf[YghY``hYb?`Y]Xi b[gghØW_Yʻg]bXʻY]bʻ_`Y]bYfžʻUVYfʻk YgYbh`]W YfʻHY]``X]YgYf9fnÀ\`i b["'G]YʻnY][YbžʻXUggʻYXYʻ9I dYX]h]cbʻʻY[U``k]YʻZYfbʻcXYf\YfUi gZcfXYfbXʻg]Yʻk UfʻʻY]bʻGhØW_A YbgW\`]W_Y]hʻi bXʻY]bY Gi W\YʻbUW K]gqYbʻ]gh"

8]Y 5i gghY ``i b['hfÀ[h'XUni 'VY]ž'XYb 'bÀW\ghYb'; YbYfUh]cbYb'X]Y 6YXYi hi b['j cb'9bhXYW_i b[gfY]gYb'bÀ\Yfni Vf]b[Yb"'G]Y'nY][hž XUgg'XYf'8fUb[ž'I bVY_UbbhYg'ni 'Yf_i bXYbž']b'XYf A YbgW\\Y]hg[YgW\]W\hY 'ZYgh'j YfUb_Yfh']gh"'8]YgYg'GhfYVYb'\Uh'X]Y; fi bX`U[Yb'[Y`Y[h'ZØf'XUgž'k Ug'k]f'\Yi hY'U`g'a cXYfbY K]ggYbgW\UZh'i bX'HYW\b]_'j YfghY\Ybž'i bX'XUg'Z]bXYh'gY]bYb

5i gXfi W_]b A i gYYb k]Y XYa 5YfcbUi h]W a "

± 'Y]bYf'K Y`hž']b'XYf'XYf'hYW bc`c[]gWXY: cfhgWXf]hhigWXbY``
j cfUbgWXfY]hYhž'Yf]bbYfh'i bg'XUg'5YfcbUi h]W a 'XUfUbž'k c\Yf'k]f
_ca a Yb'i bX'k]Y'j]Y`'Ai h'i bX'±bbcj Uh]cb'bÒh]['g]bXž'i a 'bYi Y
K Y[Y'ni 'VYgWXfY]hYb"'8]Y'9I dcbUhYž'Y]bgWX`]Y»`]WX'XYf
gY\Ybgk YfhYb'?`Y]Xi b[gghØW_Yž'g]bX'ghi a a Y'NYi [Yb'Y]bYf
Ui ZfY[YbXYb'NY]h'i bX']bgd]f]YfYb'XUni ž'XYb'Y][YbYb
9bhXYW_i b[gXfUb['ni'j YfZc`[Yb"

8 YhU]`g

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