

? Uh\Yf]bU'FY]WXY'k Ufbh. 'Ni 'j]Y` Cdh]a]ga i g'[YZÀ\fXYh'X]Y'?cb'i b_hi f°

?Uh\Yf]bU`FY]W\Y`k Ufbh'j cf'ØVYfhf]YVYbYa 'Cdh]a]ga i g`]b XYf'?cbîb_hi f"'BYi YghY'l a ZfU[YYf[YVb]ggY'j ca ']Zc ⇒bgh]hi h``]YZYfb'9]bV`]W_Y"



6Yf`]bž'8Yi hgW `UbX'! = Y]bYf'U_hi Y``Yb'K Ufbi b['\Uh?Uh\Yf]bU'FY]W\Yž'X]Y' < Ui dh[YgW\AZhgZØ\fYf]b'XYg'JYfVUbXYg_ca a i bU`Yf'I bhYfbY\a Ybž'j cf'ni 'j]Y``Cdh]a]ga i g'VY]'XYf
9]bgW\Ahni b['XYf'k]fhgW\UZh`]W\Yb'@U[Y'[Yk Ufbh"8Yf'HfYbXž'XYf\]Yfni `UbXY'gY]h'Y]b][Yf'NY]h'j cf\YffgW\hž'_ObbhY'hfØ[Yf]gW\'gY]bž
gU[h'g]Y"8]Y'2_cbca]b'VYn]Y\h'g]W\'Ui Z'j YfgW\]YXYbY

=bX]_UhcfYbž'X]Y'XUfUi Z'\]bXYi hYbž'XUgg'X]Y'?cb'\h'b_hi f'b]W\h'gc
ghUV]``]ghž'k]Y'j]Y`Y'XYb_Yb"'9]bY'9]bgW\Ahni b[ž'X]Y'Xi fW\Ui g
Yfbgh'[Ybca a Yb'k YfXYb'gc``hYž'[YfUXY']b'NY]hYbž']b'XYbYb'g]W\
j]Y`Y'I bhYfbY\a Yb'cdh]a]gh]gW\'nY][Yb"

8]Y'_ca a YbXYb'A cbUhY'k YfXYb'YbhgW\Y]XYbX'gY]b ž'Yf_`Àfh FY]W\Y"'G]Y'ZcfXYfh'Y]bY'fYU`]gh]gW\Y'6YhfUW\hi b['XYf k]fhgWX UZh`]WX Yb `G]hi Uh]cb `i b X `X Uni ž `X Ug `5 i [Yba Yf_`Ui Z X]Y [YgUa hk]fhgWX UZh`]WX Yb `F U\a Yb V Y X]b[i b[Yb `ni ``Y[Yb" 5bnY]WX Yb `j cb `I bg]WX Yf\Y]h`[]Vh`Yg`[Ybi [. 'J cb `ghY][Yb XYb 9b Yf[]Y_cghYb `ØVYf`[Ycdc`]h]gWX Y `F]g]_Yb `V]g`\]b `ni `X Yb 5 i gk]f_i b[Yb `X Yf *\DZ Uh]cb `Ui Z X]Y `? Ui Z_fUZh XYf `6Øf[Yfž `U`` X]YgY : U_hcfYb `X ØfZYb `b]WX h`Ui » Yf `5 WX h`[Y`UggYb `k YfXYb" `8]Y `G]hi Uh]cb YfgWX Y]bh`bcWX `Ub[YgdUbbhž `Ui WX `k Ybb `Y]b][Y`6fUbWX Yb `g]WX dcg]h]j Yf`dfÀgYbh]YfYb"`

?cb^i b_hi fY``Y '9bhk]W_`i b[Yb ']a ': c_i g

8]Y '\(\partial b\) [gh\) b 'I a \(ZfU[\text{Yyf}[\text{YVb}]gg\) 'X\Yg']Zc' \(\partial gh\) hi \(hg'\n\Y)[\text{Yb}\z'\X\Ugg\) I \(b\) h\Yfb\Y\\\ a \(Yb') b'' \(Yfg\) \(XYb\) b' \(GY_\) hc \(fYb'' \text{b''} \text{b''} \text{b''} \text{b''} \text{y'} \(Yfg\) \(XYb\) 'Y \(f\) \(Yf\) b'' '8 \(Ug'') \(Zc' \) \(\partial b\) hi \(h'\) \(Uh\) I \(b\) h\Yfb\Y\\\\ a \(Yb'') Yf\) \(\partial x'\) Y \(Th'') \(\partial x''\) \(X''\) \(X''\) Y \(\partial x''\) \(Yf\) \(\partial x''\) \(X''\) \(X''\) \(Yf\) \(\partial x''\) \(Yf\) \(Yf\

8]Y 'Yf\cVYbYb'8UhYb'Z]Y» Yb']b'X]Y']Zc'?cb'i b_hi fdfc[bcgY Y]b'i bX'\Y'ZYbž'g][b]Z]_UbhY'HfYbXg'ni ']XYbh]Z]n]YfYb"'8]Y I a ZfU[Yb'a UWXYb'XYi h`]WXž'XUgg'b]WXh'U``Y'6fUbWXYb'[`Y]WX VYhfcZZYb'g]bXž'k Ug'ni 'i bhYfgWX]YX`]WXYb'9fk Ufhi b[Yb'i bX GhfUhY[]Yb'ZØ\fh"'?`Y]bYfY'6Yhf]YVY'_ÒbbhYb'XUVY]'j YfghÀf_h'i bhYf

 $FY]WXY'VYhcbhž'XUgg'Yg'k]WXh][~]ghž']b'XYf'5bU`mgY'b]WXh'bi f'X]Y dcg]h]j Yb'G][~bU`Y'ni~VYhfUWXhYbž'gcbXYfb'Ui~WX'_f]h]gWX'ni~X]bhYfZfU[~Ybž'k~Y`WXYf'Cdh]a~]ga~i~g'hUhgÀWX`]WX'[~YfYWXhZYfh][~h']gh"$

9]b j cfg]W h][Yf 6 `]W bUW j cfbY

8]Y'Gcf[Yb'ØVYfY]bY'ØVYf\]hnhY'K]fhgW\UZhg]bX'b]W\h
i bVY[fØbXYh"'9]b][Y'K]fhgW\UZhgUbU`mh]_Yf'k UfbYb'YVYbZU``g
XUj cfž'X]Y'HYi Yfi b['i bX'X]Y'a Ò[`]W\Yb'[Ygh]Y[YbYb'N]bgYb'U`g
b]W\h'g][b]Z]_Ubh'ni 'VYhfUW\hYb"'JYfVfUi W\Yf'_ÒbbYb'XUg']b
]\fYa '5``hU['qdØfYbž'k Ybb'q]Y'Ub'XYf'Gi dYfa Uf_h_UgqY'ghY\Yb"

Ni XYa ']gh'XYfnY]h'Y]b'GD=9; 9@Ž 'GhUfhYf!5Vc']a '5b[YVchž'XUg'Yg XYb'Bi hnYfb'Yfa Ò[`]W\hž'k ÒW\Ybh`]W\Y'5fh]_Y``i bX $J]XYcfYdcfhU[Yb'ZfY]ni gW\U`hYb''`A]h'Y]bYa 'DfY]g'j cb''' ž--'dfc \\ K cW\Yž'g]bX'V]g'ni 'j]Yf'\D\U`hY'k À\`VUf'''K Yf'g]W\'ZØf \\ VfUbW\YbgdYn]Z]gW\Y'5bU`mgYb']bhYfYgg]Yfhž'_ÒbbhY'\]Yf'YVYbZU``g Ui Z'gdUbbYbXY'\DZcfa Uh]cbYb'ghc\Yb''$

±b 'Y]b Ya 'Xmb Ua]g W Yb 'k]f hg W UZh`] W Yb 'I a ZY `X 'V `Y] Vh 'Yg gd Ub b Yb X ž 'k]Y 'g] W 'X]Y '@U[Y 'Yb hk]W_Y `b 'k]f X " '9b hg W Y] XYb X 'k]f X gY]b ž c V 'g] W 'XYf 'C dh]a]ga i g 'j]Y `Yf 'I b hYf b Y\a Yf 'V Yk U\f\Y]hYh c XYf 'c V 'k]f i bg 'Ui Z i b fi \][Y `NY]hYb 'Y]bghY ``Yb 'a ØggYb " '6 Yg c b XYf Y '5 i Za Yf _g Ua _Y]h 'g c ``hYb 'k]f 'Y XYb ZU ``g 'XYb G][b U `Yb 'XYf 'K]f hg W UZh 'g W Yb _Yb " '9]b '[i hYg' < Àb X W Yb ']b 'XYf 5 b U `mg Y 'g W UXYh 'b] Y '

8 Y hU]`g	
Cfh	6Yf`]bž'8Yi hgW\`UbX
EiY``Yb	• k k k "gd]Y[Y`"XY
	UVc "gd]Y[Y`"XY
	• k k k "]Zc "X Y

6 Ygi WX Yb 'G]Y i bg Ui Z 'b!U["XY