

ARTS2694

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HYfa 'C bY''##'&\$&%

7ci fgY^{*}Cj Yfj]Yk

GHJZ7cbHJWh8YHJ]`g

7cbj Ybcfg

BUa Y	9a U]`	5j U]`UV]`]lm	@cWUh]cb	D∖cbY
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	_			- \$*))*\$)

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D\cbY.'Ž*%'&'-',)'%*,%

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9a U]`. '<u>\U`4 i bgk "YXi "Ui</u>

7ci fgY 8YW] g

7 fYX]hDc]bhg**

Gi a a UfmcZh\Y 7 ci fgY

7 ci fgY @YUfb]b[Ci hWca Yg

5ggYgga Ybh

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5 '%\f'HyghZcW'g]b['cb'a U'cf'hcd]Wg'WcjYfYX']b'H\Y'`YWh fYgž'h hcf]U'gž'UbX'fYei]fYX'fYUX]b[g"'\dX]j]XiU`Wca a Ybhg'k]``VY'dfcj]XYX"

Hi fb]h]b'gYh]b[.'H\]g'Ugg][ba Ybh]g'gi Va]hhYX'h\fci [\'Hi fb]h]b'UbX'gh XYbhg'Xc'bchgYY'Hi fb]h]b g]a]'Uf]hmfYdcfhg"

5ggYgga Ybh& 7`Ugg hYgh=

8 YHJ]`g.

5 '%\f'hYgh'ZcW'g]b['cb'a U'cf'hcd]Wg'WcjYfYX']b'h\Y'`YWh fYgž'h hcf]U`gž'UbX'fYei]fYX'fYUX]b[g"'±bX]j]Xi U`Wca a Ybhg'k]``VY'dfcj]XYX"

 $\label{thm:condition} \mbox{Hi fb]h]b'gYh]b[.'H\]g'Ugg][ba Ybh]g'gi Va]hhYX'h\fci [\'Hi fb]h]b'UbX'gh XYbhg'Xc'bchgYY'Hi fb]h]b g]a]'Uf]hmfYdcfhg''$

5ggYgga Ybh' DfcV Ya gYh

GhUfhXUhY. Bch5dd`]WUV`Y

8YHJ]~gg.

 $H\[g^*]g^*U^*H\[Y^!\ca Y^*Ugg][\ ba Ybh]bj\ c^*j\]b[\ 'k\ cf_'cb^*U^a\ U^cf'dfcV^Ya\ 'gYh'^5'dfcV^Ya\ 'gYh]g^*U'gYf]Yg^*cZXUHU gYhg^*XYg][\ bYX^*gi\ WX^*h\ Uhgh XYbhg^*Udd^m^*]b[\ i\]gh]WWcbWYdhg^*UbX^*UbU^mh]WU^*Z^TUa\ Yk\ cf_g^*hc^*`Ub[\ i\ U[\ Y] Ybhg^*U'gYhg^*CZXUHU gYhg^*XYg][\ bYX^*gi\ WX^*h\ Uhgh XYbhg^*Udd^m^*]b[\ i\ Ugh]WWcbWYdhg^*UbX^*UbU^mh]WU^*Z^TUa\ Yk\ cf_g^*hc^*`Ub[\ i\ U[\ Y] Ybhg^*U'gYhg^*CZXUHU gYhg^*CZXUHU gYhg^*CZXUHU$

5 hhyb XUb WY F Yei]fYa Ybhg

 $5\,\text{HY}bXUbW''cZhi hcf]U'g'']g'a UbXUhcfm']b'h\]g'Wci fgY'''5\,\text{HY}bXUbW'']g'hU_Yb'Uh'h\ Y'hi hcf]U'g'''l bYl W'gYX UVgYbW''Zfca 'a cfY'h\Ub'&$l 'cZhi hcf]U'g'k]``'fYgi 'h']b'h\Y'Uk UfX'cZZU]`'[fUXY'''+b'hi hcf]U'gž'mci 'k]``'UWf] Y`m Yb[U[Y'k]h\ WcfY'Wci fgY'WcbhYbhžYbUV`]b['mci 'hc'Uh'U]b'7 @C''' UbX'7 @C''' "$

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7ci fgY'GWXYXi `Y

J]Yk WUgg'ha YhUV'Y

H]a YHJV`Y

8 UHY	HmdY	7 cbhYbh	
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]bg/fi Wfcb ZcfYUWX k YY_fg`YWi fY hcd]WUbX hi hcf]U`	
		hUg_gž:WUgg#cb`]bY:UWfjj]hjYg:UbX:YI dYWfUfjcbik]```VY	
		Uj U]`UV`Y`cb`A ccX`Y"`@YWfi fY#fi hcf]U``hcd]Wg`UbX	
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	5ggYgga Ybh	HYghflŁ	
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	5ggYgga Ybh	:]bU``Ugg][ba YbhXi Y"	

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Image: Ybwei bhyfu'dfcv'ya k \yb'uhhya dhjb['hc'gi va]hmci f'Ugg][ba Ybhh\fci [\ 'Hi fb]h]bž'd'YUgY

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\ci fg'UfY', .\$\$Ua '-'%\$.\$\$da 'cb'k YY_XUmg'UbX'-.\$\$Ua '-').\$\$da 'cb'k YY_YbXg'fl *) 'XUmg'U'mYUft'''=Z'mci
UfY'i bUV'Y'hc'gi va]hmci f'Ugg][ba YbhXi Y'hc'U'ZJi 'hk]h\ 'Hi fb]h]b'mci 'a Um'Udd'mZcf'Ub'Y! hy'bg]cbž'Vi hmci
a i ghfYhJ]b'mci f'h]W_Yhbi a VYf'Zfca '9! hy'fbU''Gi ddcfhfU'cb['k]h\ 'Ubmch\Yf'fy'Yj UbhXcW a Ybhgt'hc
]bWi XY'Ug'Yj]XYbW' hc'gi ddcfhmci f'Y! hy'bg]cb'Udd']WUh]cb"'=Zmci 'Ya U]''9! hy'fbU''Gi ddcfhmci 'k]'`
Ui hca Uh]WJ'`mfYW']j Y'U'h]W_Yhbi a VYfZ'Vi h]Zmci 'hY'Yd\cbY'mci 'k]``bYYX'hc'gdYW]Z]WJ'`mUg_'Zcf'cbY''
Hi fb]h]b'U'gc'dfcj]XYg'i dXUhy'g'cb'h\Y]f'gmghYa 'ghUh' g'cb'Hk]hyf''

; YbYfU`mž'UggYgga YbhiHug_g'a i ghVY'gi Va]hhYX'Y`YVWfcb]\WJ``mij]U'Y]h\Yf'Hi fb]h]b'cf'U'A ccX`Y Ugg][ba Ybh''=b']bgHJb\W'g'k \YfY'h\]g']g'bchdcgg]V`Yž']hk]```VY'gHJhYX'cb'mci f'\\circ i fgY'g'A ccX`Y'g]hY'k]h\U`hYfbUh]j Y'gi Va]gg]cb'XYHJ]`g"

cfi]bZcfa Uhjcbicbi\ckihcigi Va]hUgg][ba Ybhgicbi]bYij]UiA ccXiY.i\hdg.#gh XYbhi bgk "YXi "Ui #\ck! gi Va]hUgg][ba Ybha ccXiY

5 WUXYa]W<cbYghmUbX D`U[]Uf]ga

D`U[]Uf]ga i]gii g]b[ih\Yik cfXgicfi]XYUgicZch\YfgiUbXidfYgYbh]b[ih\Ya iUgimci fick b"i=hWJbihU_Yia Ubm Zcfa gžZfca iXYi]VYfUhYiWXYUh]b[ihciUWW]XYbhU`mWcdm]b[iZfca iUigci fWYik]h\ci hiUW_bck iYX[Ya Ybh'

IBGK [fcidg'd'U[]Uf]ga]bhc'h\Y'Zc``ck]b['WUhY[cf]Yg.

• i bXYfgHJbX'mci f'f][\hg'UbX'fYgdcbg]V]`]h]Yg'Ug'U'gh XYbh'Uhil BGK

5 WUXYa]W + DZcfa Uhjcb

: cf'YggYbhJU`gh XYbh]bZcfa UhJcb fY`UhJb[hc.

- fYei Yghg Zcf Yl hYbg]cb/
- `UhY 'gi Va]gg]cbg '[i]XY`]bYg/
- fYj]Yk 'cZa Uf_g/
- I BGK < YU`h\ UbX GUZYmdc`]W[Yg/
- YI Ua]bUh]cb dfcW/Xi fYg/
- gdYWJU``Wcbg]XYfUHjcb']b'H\Y'Yj YbhcZ]``bYgg'cf'a]gUXj Ybh fY/
- gh XYbhYei]hmUbX'X]gUV]`]hm/
- UbX'ch\Yf'YggYbhJU`'UWUXYa]W]bZcfa UhJcbž'gYY