

ARTS2877

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7ci fgY 8YW] g

7 fYX]hDc]bhg**

Gi a a UfmcZh\Y 7 ci fgY

H\]g`Wci fgY`i gYg`Ubh\fcdc`c[]WU``UbX`gcWjc`c[]WU``UddfcUWXYg`fc`UbU`mgY`f\Y`YZZYWg`cZhYWXbc`c[]Yg`cb\i a Ub``]ZY"'Mci `k]```ghi Xmh\Y``]j YX`YI dYf]YbW'`cZhYWXbc`c[m]b`X]ZZYfYbhW'`hi fU``WcbhYI hgžYI d`cf]b['gi WX hcd]Wg`Ug`V]chYWXbc`c[]YgžWca a i b]WUhjcbg`hYWXbc`c[]YgžfcVchjWgžUbX`YbYf[mdc`]WjYg"'+b`f\]g`k Umžmci k]```YUfb'hc`YI Ua]bY`f\Y`g\]Zhjb[`Vci bXUf]Yg`VYfk YYb'h\Y`\i a Ub`UbX`bcb!\i a UbžUbX`f\Y`bUhi fU``UbX Uff\]ZWjU'''5hh\Y`WcbWi g]cb'cZh\Y`Wci fgYžmci `k]```\Uj Y`XYj Y`cdYX`Ub`i bXYfgHUbX]b[`cZh\Y`Uggi a dhjcbg UVci h\i a Ub]mh\Uhi bXYfd]b`WYbffU``XYVUhYg`k]h\]b`f\Y`ghi XmcZhYWXbc`c[m'

7 ci fgY @YUfb]b[Ci hWca Yg

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5ggYgga Ybh'hJg_	K Y][\h	8iY'8UHY	Gh XYbh@YUfb]b[Ci hWca Yg 5ggYggYX
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 $\label{lem:complex} K \ cf_Vcc_:Wcbg] ghg \ cZfYZYWh] cbg \ cb \ Wci \ fgY \ fYUX] b[\ g \ UbX \ WcbhYbh' : \ YYXVUW_ \ k \]h \]b \ \% \ k \ cf_]b[\ XUmg \ cZ \ gi \ Va \]gg] cb''$

5XX]h]cbU`XYHJ]`g.

 $\label{thm:limit} \begin{tabular}{ll} Hi fb]h]b gYh]b[."H\]g Ugg][ba Ybh]g gi Va]hhYX h\fci [\Thi fb]h]b UbX ghi XYbhg WUb gYY Hi fb]h]b g]a] \Thm: fYdcfhg"$

5ggYgga Ybh& 9ggUm

8YHJ]`g.

9ggUmdfcj]XYgʻUbʻcddcfhi b]hmi bXYfhU_Yʻ]b!XYdh\`fYgYUfW\`cbʻUʻgdYW]ZJWhcd]Wzcf`XYj Y`cdʻ]ggi YgʻfU]gYX]b`h\Y``YWhi fYgʻUbX`fYUX]b[g": YYXVUW_k]h\]b'%\$'k cf_]b[`XUmgʻcZgi Va]gg]cb"

 $\label{thm:continuous} \begin{tabular}{ll} Hi fb]h]b gYh]b[. Hi]g Ugg][ba Ybh]g gi Va]hhYX hi fci [in the high bub X ghi XYbhg Wub gYY Hi fb]h]b g]a] Uf]hm fYdcfhg"\\ \end{tabular}$

FYgci fW/g

Gi Va]gg]cb cZ5ggYgga YbhHUg_g

Hi fb]h]b Gi Va]gg]cb

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

Hy'Yd\cby'9| hy'fbu''Gi ddcfhcb'-',) '' ' ' %cf'Ya U]''h\Ya 'cb'Y! hy'fbu'hy'hgi ddcfh4 i bgk "YXi "Ui "''Gi ddcfh
\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 YghgʻZcfʻYl 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