

LFD']a'< Ò\YbZ`i[.'<cZZbib['Ui Z'Y]bY G97!9bhgW\Y]Xib['YbhZUW\h'bYiY'FU``mY! 9fk Ufhib[Yb

LFD!FU``mY`jcfUig3'8]YgY`G97!9bhgW\Y]Xib[`kYW_h
: UbhUg]Y`8]Y`?fmdhck À\fib[`LFD`ghY\h`]a`:c_ig`XYf
:]bUbnk Y`hž`]bgVYgcbXYfY`bUW\`Y]bYf`k]W\h][Yb
9bhgW\Y]Xib[`XYf`IG!UaYf]_Ub]gW\Yb
KYfhdUd]YfUiZg]W\hgVY\ÒfXY`G97`fGYW`f]h]Yg`UbX`9IW\Ub[Y7caa]gg]cb\!"8]YgY`9bhk]W_`ib[Yb`\UVYb`X]Y`JcfghY``ib[Y]bYf`aÒ[`]W\Yb`FU``mY`jcb`LFD`Ub[Y\Y]nh"`Jcf`XYa<]bhYf[fibX``UiZYbXYf`fYW\h`]W\Yf`5igY]bUbXYfgYhnib[Ybnk]gW\Yb`F]dd`Yž`XYa`IbhYfbY\aYb`\]bhYf`LFDžiibX`XYf



LFD!FU``mY'j cfUi g3'8]YgY'G97!9bhgW\Y]Xi b['k YW_h : UbhUq]Y

8]Y ?fmd hck $\lambda fib[LFD ghY h]a : c_i g XYf :]b Ubnk Y hž]bgVYgcbXYfY b UWX Y]bYf k]WXh][Yb '9b hgWXY]Xib[XYf I G!$

 $\label{thm:linear_problem} \mbox{ Ua } Yf]_Ub]gWXYb^K YfhdUd]YfUi Zg]WXhgVY\ \Dot{O}fXY^G97^fGYW^f]h]Yg^UbX \\ 9l WXUb[Y^7ca a]gg]cbŁ"^8]YgY^9bhk]W_`i b[Yb^\UVYb^X]Y \\ \mbox{ J cfghY``i b[Y]bYf'a \Dot{O}[`]WXYb^FU``mY'j cb^LFD'Ub[Y\Y]nh"}$

Jcf'XYa '<]bhYf[fi bX'`Ui ZYbXYf'fYW\h`]W\Yf
5i gY]bUbXYfgYhni b[Yb'nk]gW\Yb'F]dd`Yž'XYa 'I bhYfbY\a Yb
\]bhYf'LFDž'i bX'XYf'G97'_ÒbbhY'X]YgY'9bhgW\Y]Xi b[
k Y]hfY]W\YbXY': c`[Yb'ZØf'XYb'?fmdhck À\fi b[ga Uf_h'\UVYb"

♣j YghcfYb'i bX'5bU`mghYb'j YfZc`[Yb'[YbUi ž'k]Y'g]W\'X]Y
6Yn]Y\i b['nk]gW\Yb'XYf'G97'i bX'F]dd`Y'k Y]hYfYbhk]W_Y`hž'XU
X]YgY'Y]bYb'Yf\YV`]W\Yb'9]bZi gg'Ui Z'XYb'K Yfh'j cb'LFD'Ui gØVYb
_ÒbbhY"

8]Y'GdY_i`Uh]cbYb'ØVYf'Y]bY'a Ò[`]W\Y'FU``mY'k YfXYb'j cb'XYf <cZZbib['[YbÀ\fhž'XUgg'Y]bY'dcg]h]j Y'9bhgW\Y]Xib[']a':U``Y'j cbF]dd`Y'XYb'A Uf_h'ZØf'X][]hU`Y'K À\fib[Yb'gh]a i`]YfYb'_ÒbbhY"
5b`Y[Yf'g]bX'VYgcbXYfg'XUfUi Z'[YgdUbbhž'k]Y'X]Y'fY[i`Uhcf]gW\YbFU\aYbVYX]b[ib[Yb']b'Ni_ibZh'[YghU`hYh'gY]b'k YfXYb'ibXkY`W\Y'Fc``Y'LFD'XUVY]'Y]bbY\aYb'_Ubb"

8 YhU]`q

6 Ygi WX Yb 'G]Y 'i bg 'Ui Z. '_fmd hc!bYk g"Uh