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DUSINES	

&%!51!, -2E0F'&(!5#\$'(0\$	\$\$!"3G*:!;0)2#&2+!<=>'	?!
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! ! ! ! ! ! ! @2'%%0(!)+A! "B0'(!C#(D:!51!, -2E0F'&(!5#\$'(0\$\$!"3G--*:! E'%G!G0*7!/2-6!50(%0!"B02D2#7:!HI0(\$'D'F0! /-2!%G0!1(%02(&%'-(&*!4&\$0!4-670%'%'-(!

4&\$0!/-2!51!1(%02(&%'-(&*!4&\$0!4-670%'%'-(!8511449:!;0)2#&2+!<=>?!

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"#\$%&'(&)'*'%+!'(!, -(.*'/0!1(\$#2&(30!

"#\$%&'()\$*&#!

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HIO(\$'D'F0!'\$!&!*0&D'(F!, -2D'3!'(\$#2&(30!F2-#7!*'\$%0D!-(!%G0!J\$*-!"%-3K!LM3G&(F0N!1%!G&\$! &)-#%!OP==!067*-+00\$!&(D!-//02\$!'(\$#2&(30!72-D#3%\$!'(!, -2E&+:!Q0(6&2K:!"E0D0(!&(D!%G0! 5&*%'3!\$%&%0\$N!1(!, -2E&+!HIO(\$'D'F0!&*\$-!-//02\$!)&(K'(F:!70(\$'-(!&(D!\$&B'(F\$N!HIO(\$'D'F0!G&\$! 72-B'D0D!'(\$#2&(30!\$02B'30\$!/-2!<==!+0&2\$N!

$$\begin{split} HIO({D'F0!'}!3-66' \% 0D! \% - !$\# \% (\&)' *' \% + ! \& (D!20D \# 3\%' - (!-/!3*' 6 \& \% 0!3G \& (F0N!'' - !G - E!3 \& (! \& (! (! #2 \& (30! \& (D!) \& (K'(F!3 - 67 \& (+!3 - (\% 2') \# \% 0! \% - ! \& ! \$ \# \% \&' (\&) * 0! D0B0* - 760 (\% ! - /! \$ - 3' 0 \% + R!! S - \# 2! \% \& \& K! E'**!) 0! \& (\$ E02' (F! \% G' \& ! T \# 0 \% ' - (\% !) \\ \end{split}$$

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+,-#.*'*/-0.!1(.\$2*#23*4*\$5!6&4*)5!

! "#\$%&'&(#)%*+&%%&, \$*&%*-,*%./#(0.1'*2&/#3*4#.2-4*.\$'*51,5#1-67*8#*4.9#*.*2,\$(-#1+* .551,.:4*.\$'*.*/,:0%*,\$*1#'0:&\$(*-4#*1&%;*,/*'.+.(#*.\$'*&\$"0167*84#\$*+&%/,1-0\$#* %-1&;#%*<#*%4.22*:4,,%#*%0%-.&\$.=2#*%,20-&,\$%*/,1*-4#*(,,'*,/*-4#*:0%-,+#1*.\$'*%,:&#-6* .-*2.1(#7!

7-8(*%-9-#\$.!2#'!9-\$:&4&/5!

 $! "\#\$\% 4 (\#\%4.22*:, +526* < 4-4#*1#>0&1#+#\$-\%*#+*, 0-*&\$*-4#*?\%2, *@-, :;*AB:4.$(#)\%* (O& '#2&\$#\%*/, 1*1#5, 1-&$(*, /*:, 15, 1. -#*1#\%5, $\%&=&2&-63*. \%* <#22*. \%*C&$.$\%*D, 1(#)\%* EF, . '+.5*/, 1*(1##$*:, +5#-&-&, $*<&-4&$*-4#*/&$.$:#*&$'0\%-16G7*!"#$%&'&((#*%4.22*.2\%, *:, +526*<&-4*+4#*H7D7*(2, =.2*:, +5.:-*51&$:&52#\%*.$'*&$-#(1. -#*-4#*H7D7*0\%-.&$.=&2&-6*' (...2%3*/,:0%&$(*, $*-4, \;#*.1#.\;*-4.-*.1#*+, \;-*1#2#9.$-*-, *, 01*=0%&$#\;%*+, '#27**$

-i -i HI0(\$'D'F0!G&\$!\$703'/'0D!\G200!&20&\$!-/!\$703'&*!72'-2'\+A!

!"#\$%&'&(#)%=0%&\$#%%*,5#1.-&,\$%*%4.22*:.0%#*.*

+,-#.*'*/-!

HIO(\$'D'F0!'\$!&!*0&D'(F!, -2D'3!'(\$#2&(30!F2-#7!*'\$%0D!-(!%G0!J\$*-!"%-3K!LM3G&(F0N!1%!G&\$! &)-#%!OP==!067*-+00\$!&(D!-//02\$!'(\$#2&(30!72-D#3%\$!'(!, -2E&+:!Q0(6&2K:!"E0D0(!&(D!%G0! 5&*%'3!\$%&%0\$N!1(!, -2E&+!HI0(\$'D'F0!&*\$-!-//02\$!)&(K'(F:!70(\$'-(!&(D!\$&B'(F\$N!HI0(\$'D'F0!G&\$! UGO! 6 &' (!72-D#3%\$!&20A!

_ -%-2!'(\$#2&(30!! ^2-702%+!'(\$#2&(30! V33'D0(%!&(D!G0&*%G!'(\$#2&(30! H0(02&*!*'&)'*'%+!'(\$#2&(30! 4 -\$%&*!&(D!6&2'(0[%2&(\$7-2%! '(\$#2&(30! , &%#2&*!702'*\$!

$A^{*}\#2\#) - !> \&^{B}B25(!7\&2'92D!@\&\%! + \% - - #!E\&9D - \$ - \$^{F}F - # - ...!*#!\$: -!A^{*}2\#2)*24!1 -)\$\&\%^{G}!$

; '(&(30!, -2E&+d!'\$!%G0!'(D#\$%2+!-2F&('\$&%'-(!/-2!%G0!/'(&(3'&*!'(D#\$%2+!'(!, -2E&+N!;'(&(30!, -2E&+!20720\$0(%\$!<\=!/'(&(3'&*!3-67&('0\$!E'%G!]=:==!067*-+00\$N!_06)02\$G'7!'(!;'(&(30!, -2E&+!'\$!-70(!%-!&*!)&(K\$:!'(\$#2&(30!3-67&('0\$!&(D!-%G02!/'(&(3'&*!'(\$%'%#%'-(\$!-702&%'(F!'(!, -2E&+:!&\$!E0**!&\$!/'(%03G!&(D!-%G02!%03G(-*-F+!3-67&('0\$!-//02'(F!20*0B&(%!\$02B'30\$!'(!%G0!)); (%G0!), -2E&+:!&\$!E0**!&\$!/'(%03G!&(D!-%G02!%03G(-*-F+!3-67&('0\$!-//02'(F!20*0B&(%!\$02B'30\$!'(!%G0!)); (%G0!), (%(3'&*!\$03%-2N!)); (%G0!)

 $1(!<=>]:!E - 2*D!*0&D02$!&F200D! - (!& 6) '\' - \#$!\\&2F0\\$!\\ - !20D#30!F200(G - \#$0!F&\$!0 6 '\$' - ($\!UG0! /-** - E'(F!+0&2:!&!(#6)02! - /!'(D#\) + F2 - \#7\$!'(!, -2E&+!72 - D#30D!\) + 2&*!2 - &D 6 &7\$! / -2!F200(! 3 - 670\) + B0(0\) + B0(0\$

1(992%5!2#'!)&#)4(.*&#!!

HIO(\$'D'FO!'\$!3-66'\\OD!\-!\$#\$\&'(&)'*'\+!&(D!20D#3\'-(!-/!3*'6&\0!3G&(FON!

U-!T#-%0!/2-6!HI0(\$'D'F0Z\$!''#\$%&'(&)'*'%+!^-*'3+A!

 $\begin{array}{l} E ! "\# \$ \% \& ' \& (\# \ast \% 4.22 \ast : , +526 \ast < \& -4 \ast -4 \# \ast 1 \# > 0 \& 1 \# + \# \$ - \% \ast \% \# - \ast , 0 - \& \$ \ast -4 \# \ast ? \% 2, \ast @ - , : ; \ast AB : 4 . \$ (\#) \% \ast \\ (O\& ' \# 2 \& \$ \# \% / , 1 \ast 1 \# 5, 1 - \& \$ (\ast , / \ast : , 15, 1 . - \# \ast 1 \# \% 5, \$ \% \& = \& 2 \& -63 \ast . \% \ast < \# 22 \ast . \% \ast C \& \$. \$ \% D, 1 (\#) \% \ast \\ EF, . ' + . 5 \ast / , 1 \ast (1 \# \# \$ \ast : , +5 \# - \& - \& , \$ \ast < \& -4 \& \$ \ast -4 \# \ast \& \& \$ \cdot 4 \# \ast \& & 1 \% \ast C \& . \$ \% D, 1 (\#) \% \ast \\ : , +526 \ast < \& -4 \ast +4 \# H7D7 \ast (2, = .2 \ast : , +5 . : - \ast 51 \& \$ \cdot \& 52 \# \% \ast . \$ ' \ast \& -\# (1 . - \# \ast + H7D7 \ast 0 \% - . \& \$. = \& 2 \& -6 \ast \\ (, . 2 \% 3 / , : 0 \% \& \$ (\ast , \$ \ast -4 , \% \# \ast . 1 \# .) \ast -4 . - \ast . 1 \# \ast + , \% -1 \# 2 \# 9 . \$ -\ast , n O1 \ast = 0 \% \& \# \% \ast + , ' \# 27G!! \end{array}$

S - #2! & K! \$ 1 - 1'DO(* / + 172 & 3 & 132 - 103 & 162 & 163 &

^2&3%'3&*!72-I03%\$!

 $\label{eq:solution} $$ -2-I03 \ 0!72 - /\ \ \ 0!72 - /\ \ \ 0!72 - 2!HIO(\ \ D'FO! $$ -2-I03 \ \ 0!72 - 3+! $$ -3$

HIO(\$'D'FO!'\$!*--K'(F!/-2E&2D!%-!+-#2!\$-*#%'-(\$N!

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H--D!*#3Kf!

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