!

!

!

!

!

!

!

"!#\$%&&'()\*+,-!./&0,++1&2\*'!3,\*/2124!5&6672189!:6;/&<124!=>7189!\*2-!:2\$'7+1&2!0&/!

!

## "8(?1+@!?,\*-,/+!12!A/,2\$%!:66,/+1&2!

B/9+812\*1?\*96&2-1

?&C,/8!D,&/4,!

?&2!5\*-,E!

F1\$%,'',!A&''&G+!

H1\$&', !H, <, 7I!

B\*8%',,2!J1;02,/()&7\$%,/!

A/,-!D,2,+,,!!

\*2-!

Kl!5%,2!

! "#\$%& \$()L%1+! & 24187-12\* W 61I, -(6,8%&-+!+87-9!/,;&/8+!&2!8%,!-,<,'&;6,28!\*2-!

$$\begin{split} &16;', 6, 28*8[\&2!\&0!*2!, */'9!; \%\&2\&'\&41[**'!*G*/, 2, ++!+$/, 2124!*2-!!28, /<, 28[\&2!; /&4/* 6 !0&/! \\ &+8/744'124!, 6, /4, 28!/, *-, /+!12!*!A/, 2$%!! 6 6, /+!&2!+$%&&'!12! F*21&C*NL%, !; /&4/* 6 !G*+! \\ &$/, *8, -!C9!*!; /&0, ++!&2*'!', */2124!$& 6 672189! 6*-, !7; !&0!8%, !+$%&&'!*- 6121+8/*8&/M!8, *$%, /+W!*2-! \\ &$'121$*'!+7; ;&/8!+8*00N!L%1+!; *; ,/!-, +$/1C, +!8%, !; /&$, ++!&0!-, <, '&; 124!8%, !; %&2&'&41$*'!*G*/, 2, ++! \\ ;/&4/* 6 !*2-!8%, !!28, /<, 28!&2!18+, '0N!A&/89(8G&!$%1'-/, 2!; */8!$1; *8, -!12!8%, !; %&2&'&41$*'!*G*/, 2, ++! \\ ;/&4/* 6 !*2-!8%, !!28, /<, 28!&2!8%*8!'*+8, -!0P!G, ,@+N!L%, !!28, /<, 28!&2!G*+!41<, 2!!2!=24'1+%!12! \\ &@12-, /4*/8, 2N!#142101$*28!4*12+!G, /, !0&72-!12!8%, !; %&2&'&41$*'!*G*/, 2, ++!+@1''+!&0!8%, !$%1'-/, 2! \\ &@12-, /4*/8, 2N!#142101$*28!4*12+!G, /, !0&72-!12!8%, !; %&2&'&41$*'!*G*/, 2, ++!+@1''+!&0!8%, !$%1'-/, 2! \\ &@12-, /4*/8, 2N!#142101$*28!4*12+!G, /, !0&72-!12!8%, !; %&2&'&41$*'!*G*/, 2, ++!+@1''+!&0!8%, !$%1'-/, 2! \\ &@12-, /4*/8, 2N!#142101$*28!4*12+!G, /, !0&72-!12!8%, !; %&2&'&41$*'!*G*/, 2, ++!+@1''+!&0!8%, !$%1'-/, 2! \\ &@12-, /4*/8, 2N!#142101$*28!4*12+!G, /, !0&72-!12!8%, !; %&2&'&41$*'!*G*/, 2, ++!+@1''+!&0!8%, !$%1'-/, 2! \\ &@12-, /4*/8, 2N!#142101$*28!4*12+!G, /, !0&72-!12!8%, !; %&2&'&41$*'!*G*/, 2, ++!+@1''+!&0!8%, !$%1'-/, 2! \\ &&G*/, 2, ++!+@1''+!12!=24'1+%!; /, -1$$8, -!8%, 1/!A/, 2$%!/, *-124!', <, '+!12!D/*-, !0N!:2!*--18!&2&!!G, ! \\ &: 7*'9+1+!&0!*!+, /1, +!&0!+, 61(+8/7$*7/, -!128, /<1, G+N!L%, !G&/@!&0!8%, !!*$%&&'Q+!; .35!8%/&74\%!>7*'18*8!<, ! \\ && 6672189!&000, /+!*!6&-, '!8%*8!6*9!C, !16; ', 6, 28, -!C9!&8\%, /!+$%&&'18, *6+!8&!; /& 6&8, !,>7189! \\ &*2-!*$$, ++1C1'189!0&(1*''1', */2, /+!12!A:!; !&4/*6+N! \\ && 2-!*$$, ++1C1'189!0&(1*'1'', */2, /+!12!A:!; !&4/*6+N! \\ && 2-!**$$, ++1C1'189!0&(1+$$

\*+, - .%/#(!;/&0,++1&2\*'!',\*/2124!\$&6672189M!,\*/'9!128,/<,281&2M!;%&2&'&41\$\*'!\*G\*/,2,++M! ,>7189M!12\$'7+1&2M!A/,2\$%!166,/+1&2!

**0 1#2 3 1** (!5, 88, !R87 - ,!'&24187 - 12\*', !+(\*; ;79\*28!+7/!72,! 6 R8%&-&'&41,! 6 118,!;/R+,28,! '\scale{k} '\sc

!

 $\begin{aligned} & \& 2 + \$1, 2\$, !; \% \& 2\&' \& 41 > 7, !; , 2 - *28!OP!+, 6 * 12, + \%! 3\$128, / <, 28! \& 2!*!R8R!- \& 22R, !, 2!*24'*1+!; , 2 - *28!'*! \\ & 6 * \$, /2, '', \%!X, +!4 * 12 +! + 142!O1 \$*8!O+! \& 28!R8R!8 / \& 7 < R +! - *2 +!', +! \$ \& 6 ; R8, 2\$, +! -, !! \& 2+ \$1, 2\$, !\\ & ; \% \& 2\&' \& 41 > 7, !-, +!, 20 * 2\$ +! > 71! \& 28!; */8!\$1; R!U!'\$128, / <, 28! \& 2\%!3, +!/R + 7'8*8 +! \& 28!R4*', 6, 28!12 - 1>7R! \\ & > 7, !', +! \$ \& 6 ; R8, 2\$, +!, 2! \& 2+ \$1, 2\$, !; */8!\$1; R!U!'\$128, / <, 28! \& 2\%!3, +!/R + 7'8*8 +! \& 28!R4*', 6, 28!12 - 1>7R! \\ & > 7, !', +! \$ \& 6 ; R8, 2\$, +!, 2! \& 2+ \$1, 2\$, !; \% \& 2\&' \& 41 > 7, !, 2!*24'*1 +!; /R - 1 +, 28!', !21 <, *7! -, !', \$87/, !, 2! \\ & O/*2V*1 +!, 2!OT/, !*22R, \aleph!X, !; '7 + \aleph! 2\& 7 +! - \& 22\& 2+!72!*; , /V7! -, +!/Y', +!Z\& 7R +!; */!', +! 6, 6 C/, +! \$'R +! -, ! \\ & ''*! \& 6 6 72*78R! - Q^*; ; /, 28! + +*4, !; /\&0, ++1\& 22, '', !-, !'`R \& \&', !4/[\$, !U!'\$^2 2*'9 +, !>7*'18*81 <, !-\$72, ! \\ & +R/1, !-\$, 28/, 81, 2+! +, 61(+8/7\$87/R + N!3, !8/* <*1'! -, !'*! \$ \& 6 6 72*78R! - 3*; ; /, 28! + +*4, !; /&0, ++1\& 22, '', ! \\ & -, !' \Re \& 4 + 22, !', !& 0//, !72! 6 \& -T', !>71!; , 78! \setminus \&/, !61 +!, 2!; '*\$, !; */! - 5*78/, +!R \&', +!; & 7/!; /\& 6 & 7 < k1/!' R>718R! \\ & .8!' \$ \$ , ++1C1'18R!; & 7/!! \& 7+!', !*; ; /, 2*28 +! -, +!; /\&4/* 6 6, +! -\$1 6 6, /+1 \& 2!, 2!0/*2V*1 + \%! \end{aligned}$ 

**4**.\$#)'51#)(!\$&6672\*78R!-\$\*;;/,281++\*4,!;/&0,++1&22,'',M!128,/<,281&2!;/R\$&\$,M!\$&2+\$1,2\$,! ;%&2&'&41>7,M!R>718RM!12\$'7+1&2M!166,/+1&2!,2!0/\*2V\*1+!

#### 67\$%./2'\$8.7!

 $:2!0]^{MA}, 2$\%!!66, +!\&2!^{A:a!}; & 4/*6+!G, -!!2\&^{M}, -!!2&^{A}, -!!0\&^{M}, -!!2&^{B}, -!!2&^{M}, -!.2&^{M}, -!.2&^{$ 

"4\*12+818%1+1C\*\$@4/&72-M!G, !\$&2-7\$8, -!\*!+87-9!, 6; '&9124!61I, -!6, 8%&-+!8&!/, ;&/8!&2! 8%, !-, <, '&; 6, 28!\*2-!16; ', 6, 28\*81&2!&0!\*!@12-,/4\*/8, 2!+\$/, ,2124!\*2-!128,/<,281&2!; /&4/\*6! \$/, \*8, -!C9!\*!67'81-1+\$1; '12\*/9!; /&0, ++1&2\*'!', \*/2124!\$&6672189!`.35a!12!\*!A:!+\$%&&'N! i +124! >7\*2818\*81<, !6, 8%&-+M!G, !/, ;&/8!/, +7'8+!12-1\$\*8124!8%\*8!8%, !; /&4/\*6!G\*+!,00, \$81<, !12!; /&6&8124! +@1''+!12!; %&2&'&41\$\*'!\*G\*/, 2, ++!\*6&24!\$%1'-/, 2!1-,28101, -!\*+!\*8(/1+@!0&/!/, \*-124!-1001\$7'81, +N!:2! \*--181&2M!G, !; /&<1-, !12+14%8!128&!8%, !/&', +!; '\*9, -!C9!@,9!6, 6C, /+!&0!8%, !+\$%&&'0+!.35!8%/&74%! >7\*'18\*81<, !\*2\*'9+, +!&0!+, 61(+8/7\$87/, -!128, /<1, G+!\$&2-7\$8, -!G18%!, \*\$%!6, 6C, /!12-1<1-7\*''9N! :6; &/8\*28'9M!8%, !G&/@!&0!8%, !+\$%&&'0+!; /&0, ++1&2\*'!', \*/2124!\$&6672189!&00, /+!\*!6&-, '!8%\*8!6\*9! C,!16; ', 6, 28, -!C9!&8%, /!+\$%&&'18, \*6+!8&!; /& 6&8, !,>7189!\*2-!!2\$'7+1&2!0&/!\*!-1<, /+189!&0!', \*/2, /+!

!

5\*2\*-1\*2)A:!;/&4/\*6+!\$7//,28'9!+,/<,!\*'6&+8!%\*'0!\*!61''1&2!+87-,28+!2\*81&2G1-,! \*#8\*81+81\$+!5\*2\*-\*M!dPdOaN!:2!,\*/'9!A:M!&2,!&0!6\*29!6&-,'+!&0!A:!;/&4/\*66124!-1+812471+%,-! ;/16\*/1'9!C\*+,-!&2!\*4,!&0!128\*@,M!2&2(A/\*2\$&;%&2,!\$%1'-/,2!/,\$,1<,!!28,4/\*8,-!\$&28,28!\*2-! '\*247\*4,!!2+8/7\$81&2!12!A/,2\$%!C,4122124!12!@12-,/4\*/8,2!&/!D/\*-,!0N!:2!F\*218&C\*M!+87-,28+!\*/,! 8\*74%8!,I\$'7+1<,'9!12!A/,2\$%!12!@12-,/4\*/8,2!\*2-!D/\*-,!0!\*2-!C,412!8&!/,\$,1<,!=24'1+%!'\*247\*4,! \*/8+!12+8/7\$81&2!12!D/\*-,!dN! "+!\*!/,+7'8M!+87-,28+!\*/,!,I;,\$8,-!8&!\*\$>71/,!\$&6;,8,2\$,!12!&/\*'!\*2-! Cl'1247\*'!\$%1'-/,2!\$&2+1+8,28'9!&78;,/0&/6!8%,1/!6&2&'1247\*'!\$&728,/;\*/8+!&2!<\*/1&7+!+@1''+! 12\$'7-124!'\*247\*4,!;/&\$,++124!\*2-!,I,\$781<,!\$&28/&'!`)1\*'9+8&@M!dPP\_h!D,2,+,,M!,8!\*'M!dPPgaN!

 $L_{*}, !, !'9!'18, /*89!+\$, ., 2124!*2-!128, /<, 281\&2! - , +142, -!C9!8\%, !8, *6!*8!8\%, !A: !+$%&&'!G*+!$   $C^{*+}, -!&2!8\%, !?, +; &2+, !8\&!:28, /<, 281\&2!'?L:a!6\&-, 'ML\%, !?L:!6\&-, '!\%^{*+!C}, ., 2!G1-, '9!$  16; ', 6, 28, -!%/k74% &78!+\$%& '!+9+8, 6+!\*+!\*!; /, <, 281<, !67'81(81, /, -!; /&\$, ++!&0!\*++, ++6, 28!\*2-!  $12+8/7\$8!\&2!8\&!*--/, ++!8\%, !2, , -+!\&0!+87-, 28+!G\%\& !*(1+e!&0!/, *-124!0*1'7/, !^F $:28\&+\%1!, 8!*'W!$   $dPOOa\%!?L:!G^{*+!}-, <, '\&; , -!8\&!; /\& 6\&8, !8, *\%, /+Q!/\&', !**!0!/+\$!128, /<, 281\&2!+8!C9!*''&G124!8\%, 6!8\&!$   $0'^{*}4!*!\$\%' -!G\%\& !6^{*}9!C, !*&(/1+e!0\&/!/, *-124!-100!\$7'81, +!*2-!*-27+8!8\%, 1/!$''*++/&& 6!; /*$81$, +!8\&!$   $C, 88, /!6, .8!8\%, !$\%1'-Q+!', */2124!2, .-+!^F F, +6, /!b!F, +6, /!!dPPka\%!L\%, !6\&-, '!$&2+!+8+!&0!8\%/, .!$  81, /+!&0!12+8/7\$81&2!L1, /!::!/, ; /, +, 28+!%12+8/7\$81&2!; /&<1-, -!12!+6\*''!4/&7; +!8&!\*8(/1+e!\$%!2-, '-1</br>
<math display="block">8k!\*''!+87-, 28+%L1, /!::!/, ; /, +, 28+!12+8/7\$81&2!! ?&<1-, -!12!+6\*''!4/&7; +!8&!\*8(/1+e!\$%'1-/, 2!\*+!\*! 6, \*2+!&0!+7; ; ', 6, 28124!\$'\*++/&& 6!12+8/7\$81&2!!\*2-!L1, /!::!/, ; /, +, 28+!12-1<1-7\*'1E, -!12+8/7\$81&2!
`m\*74%2!, 8!\*'W!DPPca%!L%7+\*!8%, !; '!21\$\*'1+7; ; &/8!+8\*00%!\*2-!12\$/, \*+, -!; /\*\$81\$, !81 6, !&2!\*!
\$\$&'', \*47, +!G18%!+; ,\$101\$!, I; , /81+, !+7%!\*!\*121\$\*'1+7; ; &/8!+8\*00%!\*2-!12\$/, \*+, -!; /\*\$81\$, !81 6, !&2!\*!

# ! )>': ...5?@&#+/)A%.B+##8.7&5)C+&%787D); ...3 3 278\$, )\$.)E+58F+%) \* 87/+%D&%\$+7)A:.7.5.D8'&5)! - &%+7+##)9%&8787D)

 $:8!!+!G18\%12!8\%1+!C/\&^*-,/!\&28, I8!8\%*8!8\%1+!A:!+\$\%\&\&'!,+8*C'1+\%,-!*2!,*/'9!+\$/,,2124!*2-!$ , 6, /4, 28!'18, /\*\$9!128, /<, 281&2!; /&4/\* 6 !0&/!18+!@12-, /4\*/8, 2!\$%1'-/, 2N!L%, !0&\$7+!&0!8%, !; /&4/\* 6 ! G\*+!; %&2&'&41\$\*'!\*G\*/,2,++M!\*!@,9!'18,/\*\$9(/,'\*8,-!+@1''M!-,012,-!\*+!8%,!\*C1'189!8&!\*88,2-!8&M!1+&'\*8, M!\*2-!6\*21;7'\*8,!8%,!+&72-+!12!G&/-+!\*8!8%,!+9''\*C',M!&2+,8(/16,M!\*2-!12-1<1-7\*'!; %&2,6,!', <, '+!` e \*42, /!, 8!\*'M!0]]]aN!L%,!16;,87+!0&/!8\%,!; /&4/\*6!G\*+!/,\$&42181&2!8%\*8!\*+!+\$%&&'!

!

\*'\M!dPOOa\\L\%1+!6\*9!C, \C, \\$7+, !; \&2&'&41\\$\*'!\*G\*/, 2, ++!+@1''+!\*\$>71/, -!12!8%, !30!12!8%, !; /, +\$\&2' 9, \*/+!`8\%/&74\%!, I; &+7/, !8&!27/+, /9!/%96, +\!0&/!, I\*6; ', a!\*/, !8/\*2+0, //, -!\*\$/&++!'\*247\*4, +!8&! +7; ; &/8!3d!', \*/2124!`5\%724!, 8!\*'\M!dPO]h!B&-\*\!dPPka\!F&/, &<, /\!+87-1, +!12<&'<124!A:!+87-, 28+! %\*<, !/, <, \*', -!8\%\*8!+\$\&&'(C\*+, -!, \*/'9!1-, 28101\\$\*81&2!\*2-!128, /<, 281&2!; /&<1-, -!12!8\%, !+87-, 280+!30! %\*<, !; &+181<, !&78\$&6, +!0&/!+87-, 28+!G\&!\*/, !+\&6124!+142+!&0!-1001\\$7'89!12!\*\$>71/124!+@1''+!12!3d!  $128, / <, 281\&21; / \&4/* 6 \text{ N!} \#; \$101\$'' 9 \text{ M!G}, \$8, +8, -!G\%, \$\%, /!8\%, !=24'1+\%!; \%\&2\&'\&41\$*'!*G*/, 2, ++!+@1''+! \&0!A:!+87 - , 28+!1 - , 28101, -!*+!*8(/1+@!0\&/!/, *-124!-1001\$7'81, +!16; / \&<, -!*08, /!; */81\$1; *8124!12!8\%, ! 128, / <, 281\&2\text{ N!L}\&!-\&!+\&\text{M!G}, !\&&6; */, -!; \%&2\&'\&41\$*'!*G*/, 2, ++!+\&/, +!\&C8*12, -!*08, /!; */81\$1; *8124!12!8\%, ! 128, / <, 281\&2\text{ N!L}\&!-\&!+\&\text{M!G}, !\&&6; */, -!; \%&2\&'\&41\$*'!*G*/, 2, ++!+\&/, +!\&C8*12, -!*08, /!; */81\$1; *8124!12!8\%, ! 128, / <, 281\&2\text{ N!L}\&!-\&!+\&\text{M!G}, !\&&6; */, -!; \%&2\&'\&41\$*'!*G*/, 2, ++!+\&/, +!\&C8*12, -!*08, /!; *8124!12!8\%, !0*''!\&0! @12 - , /4*/8, 2!^{`}; /, (128, / <, 281\&2a!8\&!8\%\& +, !\&C8*12, -!*12!+; /124!&0!8\%, !+*6, !9, */!`; &+8(128, / <, 281\&2a\text{ N!} A7/8\%, /6\&/, \text{M!G}, !, I*612, -!G\%, 8\%, /!4*12+!6*-, !&<, /!816, !!2!@12 - , /4*/8, 2!&2!=24'1+\%! ; \%&2\&'&41\$*'!*G*/, 2, ++!; /, -1\$8, -!A/, 2\$\%!/, *-124!&2, !9, */!'*8, /!`1N, \text{M!}, 2 - !&0!D/*-, !0a!*6&24! $\%1'-/, 2!G\%\&!\%*-!; */81\$1; *8, -!12!8\%, !!28, / <, 281\&2\text{N!!}$ 

!

: 2!\* - -181&2!8&! > 7\*2818\*81 < , !\*2\*'9+, +!, <\*'7\*8124!128, / <, 281&2!, 00, \$8+\$!G, !\$\*//1, -!&78!+, 61( +8/7\$7/, -!128, / <1, G+!G18%!@, 9!6, 6C, /+!&0!8%, !. 35!', \*-, /+%1; !8&!4\*12!12+14%8+!128&!8%, 1/!/&', +!12! -, <, '&; 124!\*2-!16; ', 6, 28124!8%, !, \*/'9!+\$/, , 2124!\*2-!128, / <, 281&2!; /&4/\*6!\*8!8%, !A:!+\$%&&'N! e, ! \$&2+1-, /, -!8%1+!\*2!16; &/8\*28!4&\*'!&0!&7/!+87-9!41<, 2!8%, !; \*7\$189!&0!/, +, \*/%!&2!. 35+!12!5\*2\*-1\*2! A:!+\$%&&'+!`5/\*2+8&2M!dPOOh!X/, ++', /M!dPOkh!A, /47+&2M!dPOfaN!:2-, -W!8&!&7/!@2&G', -4, W!8%1+! +87-9!1+!8%, !01/+8!8&!\*--/, ++!8%, !16; &/8\*2\$, !&0!, +8\*C'1+%124!+\$%&&'(C\*+, -!128, /; /&0, ++1&2\*'!. 35+!8&! C, 88, /!+7; ; &/8!+8/744'124!+87-, 28+!12!A:!\$'\*++/&&6+!G18%!8%, !4&\*'!&0!; /&6&8124!, >7189!12!; /\*\$81\$, N!!

#### **4**+**\$**:./)

#### A&%\$8'8G&7\$#)

L%, !\$%1'-/, 2!G%&!; \*/8!\$1; \*\$, -!12!8%1+!+\$7-9!G, /, !, 2/&'', -!12!\*2!, \*/'9!A:!; /&4/\*6!12!\*!; 7C'1\$'9!072-, -!+\$%&&'!12!#&78%, /2! F\*218&C\*N!L%, !+\$%&&'!&00, /+!A:!; /&4/\*66124!0/&6! @12-, /4\*/8, 2!8&!D/\*-, !^N!L%, !@12-, /4\*/8, 2!; /&4/\*6!\*8!8%, !+\$%&&'!/72+!0&/!\*!%\*'0!-\*9W!0!<, !-\*9+!; ,/! G, ,@N! " ''!12+8/7\$81&2!1+!-, '1<, /, -!12!A/, 2\$%!7281'!D/\*-, !dM!\*8!G%1\$%!; &128!dP!8&!d\_!; ,/\$, 28!&0! 12+8/7\$81&2\*'!816, !1+!-, -1\$\*8, -!8&!=24'1+%!'\*247\*4, !\*/8+N!L%, /, 0&/, M!8%, !\$%1'-/, 2!G, /, !12!8%, !, \*/'9! +8\*4, +!&0!\*\$>71/124!'\*247\*4, !\*2-!'18, /\*\$9!+@1''+!12!A/, 2\$%N! " !8&8\*'!&0!k\_!@12-, /4\*/8, 2!\$%1'-/, 2!` ! \*4, !t!c^!6&28%+W! !t!fNg\_a!0/&6!0!<, !\$'\*++/&&6+!12!8%, !+\*6, !, ', 6, 28\*/9!A:!+\$%&&'!; \*/8!\$1;\*8, -!

12!8%, !+87-9N!. \*/81\$1; \*28+Q!'\*247\*4, !+8\*87+!G\*+!-,8,/612, -!C\*+, -!&2!'\*247\*4, !, I; &+7/, !!2!8%, ! %&6, !\*+!/, ; &/8, -!C9!8%, !\$%1'-Q+!; \*/,28N! r 0!8%, !k\_!\$%1'-/,2M!^]!`c] u a!G,/,!, I; &+, -!&2'9!8&! =24'1+%!12!8%, !%&6, !\*2-!0k!`d0 u a!G,/,!, I; &+, -!&&!\*!'\*247\*4, !&8%, /!8%\*2!=24'1+%!\*8!%&6, N!L%, ! %&6, !'\*247\*4, +!/, ;/,+,28, -!12!8%, !+\*6; ', !G,/,! ''/\*C1\$!`2t0al!), 24\*'1!`2t0al!5%12,+, !`2t0al! H, ; \*'1!`2t0al!. &/8747,+, !`2t0al!. 72Z\*C1!`2t0al!#; \*21+%!`2tdal!L\*4\*'&4!`2tgal!L/124124\*!`2t0al! H, ; \*'1!`2t0al!. &/8747,+, !`2t0al!. 72Z\*C1!`2t0al!#; \*21+%!`2tdal!L\*4\*'&4!`2tgal!L/124124\*!`2t0al! i @/\*121\*2!`2t0al! i /-7!`2tfal!\*2-!m1,82\*6,+, !`2t0al! '''!\$%1'-/,2!%\*-!, I; &+7/, !&&!=24'1+%!12!8%, ! C/&\*-, /!\$&6 672189!\*+!18!1+!8%, !+&\$1,8\*'!'\*247\*4, !12!8%, !/,41&2!12! F\*218&C\*!12!G%1\$%!8%1+!+87-9! G\*+!\$&2-7\$8,-N!!

L%, !\$%1'-/, 2!G,/, !\*++, ++, -!12!8%, !0\*''!&0!@12-, /4\*/8, 2!7+124!8%, !=24'1+%!. %&2&'&41\$\*'! "G\*/, 2, ++!#\$/,, 2124!L&&'(?, <1+, -!`. "#L(?1!B1';\*8/1\$@M!dPO^a!8&!1-, 28109!8%&+, !G%&!G,/, !\*8( /1+@!&0!/, \*-124!-

**!''#\$#%#&'()**\*+,)-.\$.//0.%&2&'&41\$\*'!\*G\*/,2,++!G\*+!\*++,++,-!12!=24'1+%!7+124!8%,!

 $*-6121+8,/,-<\!\!14q/Cs1cs01848.341292.8223-0.2(,1)1.(+)-00.-(-)0.2(4341292.8//,)0.2(-)0.22!(,)0.2\%(+)-0.2(-)0.2(-$ 

- 1418+N!L%, !8\*+@!\$&2+1+8, - !&0!Od!18, 6+!12!G%1\$%!, \*\$%!18, 6!G\*+!/, ;, \*8, - !8G1\$, N!L%, !8\*+@!G\*+! -1+\$&28127, -!G%, 2!8%, !\$%1'-!6\*-, !8G&!\$&2+, \$781<, !, //&/+N!L%, !8, +8!\*'+&!\$&28\*12, -!8G&!; /\*\$81\$, ! 18, 6+N!L%, !/\*G!+\$&/, !/, ;/,+, 28, -!8%, !'&24, +8!+, >7, 2\$, !&0!-1418+!8%\*8!G\*+!/, ;, \*8, -!\$&//, \$8'9N!

: 2!8%, !6&28% ! !&0! j \* 27\*/9! \* 2 - !A, C/7\*/9!!8%, !\$%1' - /, 2!G, /, !/, \*++, ++, -!&2!8%, !; %&2&'&41\$\*'! \*G\*/, 2, ++! +@1'' +!8%, 9!%\* - !0&\$7+, -!&2! - 7/124!8%, !!28, /<, 28!&2N!#87 -, 28+!G%&!&&28!27, -!&&!6, , 8!\*8(/1+@!\$/18, /1\*!`N, W!\*!+\$&/, !&0!', ++!8%\*2!kPu !\$&//, \$8!/, +; &2+, +a!/, \$, 1<, -!\*!+, \$&2-!/&72-!&0! 128, /<, 28!&2+!8%\*8!/\*2!0/& 6! F\*/\$%!8&! F\*9N!L%, !+\*6, !; /&8&&& '+!\*2-!8!6, '12, !7+, -!12!8%, !01/+8! /&72-!G, /, !0&''&G, -!12!8%, !+, \$&2-!/&72-!&0!128, /<, 28!&2N!H&8, !8%\*8!8%, !\$%1' - /, 2!/, \$, 1<, -!8%, ! +, \$&2-!/2, \$, 28!&2!!&2'9!&2!\*+; ,\$8+!&0!; %&2&'&41\$\*'!\*G\*/, 2, ++!&2!G%15%18%, 9!&28!27, -!8&! +\*744', N!#%&7' -!\*!\$%1' -!\$&28!27, 18&!6, ,8!8%, !\*8(/1+@!\$/18, /1&2!\*8!8%, !, 2-(&0(9, \*/!\*++, ++6, 28!8%\*8! +\*744', N!#%&7' -!\*!\$%1' -!\$&28!27, 18&!6, ,8!8%, !\*8(/1+@!\$/18, /1&2!\*8!8%, !, 2-(&0(9, \*/!\*++, ++6, 28!8%\*8! +\*744', N!#%&7' -!\*!\$%1' -!\$&28!27, -!8&!6, ,8!8%, !\*8(/1+@!\$/18, /1&2!\*8!8%, !, 2-(&0(9, \*/!\*++, ++6, 28!8%\*8! +\*744', N!#%&7' -!\*!\$%1' -!\$&28!27, -!8&!6, ,8!8%, !\*8(/1+@!\$/18, /1&2!\*8!8%, !, 2-(&0(9, \*/!\*++, ++6, 28!8%\*8! +\*744', N!#%&7' -!\*!\$%1' -!\$&28!27, -!8&!6, ,8!8%, !\*8(/1+@!\$/18, /1&2!\*8!8%, !, 2-(&0(9, \*/!\*++, ++6, 28!8%\*8! +\*744', N!#%&7' -!\*!\$%1' -!\$&28!27, -!8&!6, ,8!8%, !\*8(/1+@!\$/18, /1&2!\*8!8%, !, 2-(&0(9, \*/!\*++, ++6, 28!8%\*8! +\*744', N!#%&6, -!8&, 1+, \$&2-!/&72-!&0!128, /<, 28!&2M!; \*/, 28+!G, /, !\$&28\*\$\$, -!C9!8%, !'18, /\*\$9!\*2-!+87-, 28! +, /<1\$, +!8, \*\$%, /+1!G&7' -!120&/ 6!8%, 6!&0!8%, 1/!\$%1' -0+!-1001\$7'81, +!\*2-!; /&<1-, !8%, 6! G18%!'18, /\*\$9!\*\$8!<181, +!\*2-!+8/\*8, 41, +!8&!+7; ; &/8!8%, 1/!\$%1' -!\*8!%&6, !&<, /!8%, !+766, /!6&28%+N! >+18\*?\$

 $A_{1<,!@,9!6,6C,/+!&0!8\%,!+\$\%\&\&'Q+!.35!`8\%,!+;,,\$\%('*247*4,!;*8\%\&'&41+8M!8\%,!'18,/*\$9!*2-!\\+87-,28!+,/<1\$,+!8,*\$\%,/+M!8\%,!+\$\%\&\&'!;+9\$\%\&'&41+8M!*2-!8\%,!;/12\$1;*'a!8\&\&@!;*/8!12!+,61(+8/7\$87/,-!\\12-1<1-7*'!128,/<1,G+!&2'12,!<1*!8\%,! \} \&\& 6!;'*80\&/6!G18\%!8\%,!01/+8!*78\%\&/N! e,!7+,-!*!>7*'18*81<,!\\+8$ 

+7\$\$,++M!\*''!0&7/!-,6&2+8/\*8,-!6\*/@,-!16;/&<,6,28!12!;%&2&'&41\$\*'!\*G\*/,2,++!C,8G,,2!;/,(!\*2-!; ;&+8(128,/<,281&2N!#;,\$101\$\*''9M!+87-,28!0!6&<,-!7;!0/&6!8%,!0c !8&!8%,!gg !;,/\$,281',!/\*2@M! +87-,28!d!0/&6!8%,!0g !8&!8%,!fg !;,/\$,281',!/\*2@M!+87-,28!f!0/&6!8%,!0c !8&!8%,!gg !;,/\$,281',!/\*2@M! /\*2@M!\*2-!+87-,28!g!0/&6!8%,!g !8&!8%,!f\_ !;,/\$,281',!/\*2@N!

L\*C', !d!-1+; '\*9+!8%, !-, +\$/1; \$!<, !+\$\*\$!+\$!%! (2%/!\*''!<\*/1\*C', +!\*-6121+\$, /, -!12!D/\*-, !0%! ., \*/+&2!C1<\*/1\*\$, !!&//, '\*\$!&2+!\*6&24!\*''!6, \*+7/, +!\*/, !+%&G2!12!L\*C', !f%!H&\$\*C'9%!%, /, !G\*+!\*!  $6\&-, /*\$, !!\&//, '*\$!\&2!C, \$G, , 2!; \&+\$(128, /<, 281\&2!; \%\&2\&'\&41\$''!*G*/, 2, ++!*2-!A/, 2\%!/, *-124!^/!$   $t! NFOOM! \sim !NP_a\%!$ 

#### 9&''5+)KJ))

0/& 6 !8%, !128, /<1, G+!&0!8%, !+\$%&&'Q+!+;,,\$%('\*247\*4,!;\*8%&'&41+8!!'18, /\*\$9!\*2-!+87-,28!+, /<1\$,+! 8,\*\$%, /+!!+\$%&&'!;+9\$%&'&41+8!!\*2-!;/12\$1;\*'!!,\*\$%!12!87/2!!

=''.\*>2..(''\*?)\$&4)&.\*!)5''###&'/50\*L%,!#3.!G\*+!\*!@,9!;'\*9,/!12!8%1+!+\$%&&'(C\*+,-!\$&''\*C&/\*81&2N! :2!\$&2<,/+\*81&2+!G18%!8,\*\$%,/+#!+%,!G\*+!&08,2!8&'-!8%\*8!\$%1'-/,2!G,/,!+8/744'124!8&!\*\$>71/,!,\*/'9! '18,/\*\$9!+@1''+N!L%1+!+;7//,-!%,/!8&!',\*/2!\*+!67\$%!\*+!+%,!\$&7'-!\*C&78!;%&2&'&41\$\*'!\*G\*/,2,++!\*2-! 18+!/,'\*81&2!8&!,\*/'9!/,\*-124!\*\$%1,<,6,28!8%/&74%!;/&0,++1&2\*'!-,<,'&;6,28!G&/@+%&;+!\*2-!

\*\$1<1\$1, +\$!L%, +, !!20&/6\*'!12\$, <, 2\$1&2+!', -!8&!; &+181<, !', \*/2124!&78\$&6, +!0&/!8%, !\$%1'-/, 2!12!8%1+! +6\*''(+\$\*', !!2\$, <, 2\$1&2\$!'' +!8%, !<\*'7, !&0!, \*/'9!1-, 2\$101\$\*81&2!\*2-!12\$, <, 2\$1&2!C, \$\*6, !\$', \*/\$!0\*''! +\$/, , 2124!G\*+!128/&-7\$, -!\*2-!\*''!@12-, /4\*/8, 2!8, \*\$%, /+!G, /, !8/\*12, -!8&!12\$&/; &/\*8, !; %&2&'&41\$\*'!  $*G*/, 2, ++!+@1''+!8/*12124!12!A/, 2\$\%!12!8\%, !\$'*++/\&\&6 \aleph!L\%, !'18, /*\$9!8, *\%, /!*2-!+87-, 28!+, /<1\$, +!$   $8, *\$\%, /!8\&\&@!\&2!8\%, !/\&', !\&0!6, 28\&/+!8\&!8\%, 1/!\$\&'', *47, +\aleph!\&C+, /<124!8\%, 6!*+!8\%, 9!8*74\%8!12!8\%, 1/!$   $\$'*++/\&\&6+!*2-!; /\&<1-124!0, -C*\$@!8\&!!6; /\&<!16; /\&<, !8\%, 1/!; /*\$81\$, +\aleph!L\%, !; */82, /+\%1; !C, 8G, , 2!+; , \$1*'1+8!$ 

'\*8,/!&2Nw! e 18%!816, !\*2-!+7; ; &/8!0/&6!8%, 1/!\$&'', \*47, +M!8, \*\$%, /!\$&2\$,/2+!\*C\*8, -M!\*2-!8%, 9!G,/,! C/&74%8!&2!C&\*/-!G18%!8%, !; /&4/\*6N!!

=''.\*>(''### !/<(''### 2/50\* e %, 2!8%, !+\$%&&'!;+9\$%&'&41+8!Z&12, -!8%, !8,\*6 M!%, !\*++76, -! /,+;&2+1C1'189!0&/!\*''!\*+;,\$8+!&0!\*++,++6,28M!6\*2\*4124!6&+8!&0!8%,!-\*8\*!\$&'',\$81&2!;/&\$,++!\*2-! -\*8\*!\*2\*'9+1+N!L%,!;+9\$%&'&41+80+!,I;,/81+,!G\*+!12+8/76,28\*'!12!+7;;&/8124!,00&/8+!8&!/,012,! +\$/,,2124!;/&\$,-7/,+!\*2-!128,/<,281&2!;/\*\$81\$,+!&<,/!816,M!,2+7/124!8%\*8!8%,9!G,/,!-\*8\*(-/1<,2! \*2-!,<1-,2\$,(C\*+,-N!J1+!12;78!12!8%,!;/&Z,\$81\*'+&!,2\$&7/\*4,-!\*!G%&',(\$%1'-!\*;;/&\*\$%!8%\*8! 12<&'<,-!6&218&/124!&<,/\*''!+87-,28!G,''(C,124M!12!\*--181&2!8&!'18,/\*\$9!+@1''+N!J,!;\*1-!+;,\$1\*'! \*88,281&2!8&!>7\*'18\*81<,!-\*8\*!12!8%,!0&/6!&0!\*2,\$-&8\*'!2&8,+!0/&6!8,\*\$%,/+!\*2-!&/\*'!&/!G/188,2! 0,,-C\*\$@!0/&6!;\*/,28+!12!\*--181&2!8&!8/\*\$@124!>7\*2818\*81<,!-\*8\*!8&!\*++1+8!8%,!8,\*6!12!1-,28109124! +87-,28+!\*8(/1+@N!\*

31@, !8%, !#3. M!8%, !; +9\$%&'&41+80+!,00,\$8!&2!8%, !, \*/'9!+\$/,,2124!\*2-!128,/<,281&2!;/&4/\*6! G\*+!\*'+&!0, '8!\*8!8%, !+\$%&&'!-1<1+1&2!',<,'N!L%/&74%!%1+!, I8,2+1<,!;/&0,++1&2\*'!2,8G&/@M!%,!G\*+! \*C', !8&!,2\$&7/\*2(!)]T0-!&12!G\*\$G&+!\*%,0.2(!80.2(+)0.2(%&&0.2(!8)-0.2(!\*)&6)0.2(!8)0.2(2-0.2(%&/)-0.2(8))

 $\begin{aligned} & *C\&78!8\%1+\$! \bullet G, .!+8*/8, -!/, *''9!+, .124!8\%, !/\&', !8\%*8!, <, /9\&2, !\&7'-!; '*9!, */'9!\&2 f "2-!18! \\ & G*+!/, *''9!8\%/\&74\%!8\%, +, !\&2<, /+*8!\&2+!8\%*8!G, !*''!+*G!8\%*8!G, !\%*<, !*!$, /8*12!+, 8!&0!+@1''+! \\ & 8\%*8!*''!*$87*''9!018!8\&4, 8\%, / f "2-!8\%*8! 6*@, +! 6\&+8!+, 2+, \$!C, \$*7+, !G, \$/, !*''!014\%8124!8\%, ! \\ & +*6, !; /\&C', 6 \$\%9\&7!@2\&G\$!0147/124!&78!, */'9!&2!G\%, /, !G, !$*2!*$87*''9! 6*@, !*! \end{aligned}$ 

-100,/,2\$,Nw!!

!

J, M!8&&M!C, '1, <, +!8%, /, !\*/, !6\*29!&C+8\*\$', +!8&!&<, /\$&6, !G%, 2!\$/, \*8124!\*!+\$%&&'(C\*+, -!

`dPOOa!8%\*8!/, '\*8, -!8&!,00,\$8124!\$%\*24,!12!+\$%&&'+!8&!16;/&<,!'18,/\*\$9!&78\$&6,+N!%,!6,8!G18%!@,9! 6,6C,/+!&0!%1+!+8\*00!8&!C,412!+&/8124!&78!-,8\*1'+N!+7\$%!\*+!8%,1/!/,+;,\$81<,!/&',+!12!8%,!+\$/,,2124! \*2-!128,/<,281&2!;/&\$,++N!6,\*+7/,6,28!8&&'+N!\$&28,28!&0!8%,!128,/<,281&2N!\*2-!8,\*\$%,/!8/\*12124N! L%,!;/12\$1;\*'!;/&<1-,-!',\*-,/+%1;N!-1/,\$81&2M!\*2-!0&+8,/,-!\$&''\*C&/\*81&2!G18%12!8%,!+\$%&&'N!J,!G\*+! 12+8/76,28\*'!12!4,88124!8,\*\$%,/!\*2-!;\*/,28!C79(12!0&/!8%,!+\$/,,2124!\*2-!128,/<,281&2!;/&4/\*6M!12! ;/&4/\*6!;'\*22124!\*2-!,+8\*C'1+%124!4&\*'+N!\*+!G,''!\*+!12!\$/,\*8124!\*!-\*1'9!/&7812,!8%\*8!12\$&/;&/\*8,-! L1,/!:!\*2-!L1,/!::!;%&2&'&41\$\*'!\*G\*/,2,++!8/\*12124!12!@12-,/4\*/8,2N!!\*

L%, !; /12\$1; \*'! 6, \$!&0\$, 2!G18%!@, 9! . 35! 6, 6C, /+!G%&+, !, I; , /\$1+, !%, !\$7/2, -!&!0&/! 12\$, /; /, \$\*\$1&2!&0!\$, +\$! /, +7'\$+\$!\*2 - !\$%, !- , <, '&; 6, 2\$!\*2 - !/, 0!2, 6, 2\$!&0!%, !, \*/'9!+\$/, , 2124!\*2 - !  $12\$, /<, 2\$1\&2+\aleph!J, !', -!C9!, I*6; ', !!* - 618\$124!\%1 + !\&G2!4*; +!12!@2\&G', -4, !!*2 - !+, .@124!\&\&!* - -/, ++!$  8%, 6 N!L%, !; /12\$1; \*'!; \*/\$1\$1; \*\$, -!\*\$8!<, '9!12!8%, !\*++, ++6, 2\$!; /&\$, ++!!12!\$, \*\$%, /!8/\*12124!\*2 - !12! 8, \*\$%124!&/!&&(\$, \*\$%124!; %&2&'&41\$\*'!\*G\*/, 2, ++!\*8%, 41, +!12!@12 - , /4\*/8, 2!\$'\*++/&& 6 +!\*'&24+1 - ,!  $\%_1 + !!\&'', *47, +N! r 2!\&\$*+1\&2!!\%, !01'', -!12!0\&/!\$, *\$\%, /+!8\&!0/, .!8\%, 6!7; !8\&!; */81\$1; *\$, !12!; /\&0, ++1\&2*'!$  -, <, `&; 6, 28!\*\$8! < 18!, +N!:2!8%1 + !G\*9!!%, !-, <, `&; .-!8/7 + 8124!/, '\*81&2 + %1; +!G18%!%1 + !\*800!\*2 - !6\* - ,! \$', \*/18%\*8!8%, !; /&4/\* 6!G\*+!\*!8&; !; /1&/189N!L%, !; /12\$1; \*'!+8\*8, -1!

v:0!9&7%/,!4&124!8&!41<,!\*-<1\$,!8&!\*!+\$%&&'!8&!4,8!8%1+!8&!%\*;;,2M!8%&74%M!:!8%12@!18!2,,-+!8&! 0&\$7+!\*!'&8!&2!8%,!+\$%&&'!',\*-,/+%1;M!8&!4,8!,24\*4,-M!8&!4,8!12<&'<,-M!8&!4,8!@2&G',-4,\*C',!

12!8%,1/!+\$%&&'+N!:2!%1+!\$7//,28!/&',!\*+!\*!-1<1+1&2\*'!;/12\$1;\*'N!%,!\$&28127,+!8&!\*-<&\$\*8,!0&/! 721<,/+\*'!+\$/,,2124!\*2-!,\*/'9!128,/<,281&2!\*2-!0,,'+!8%1+!1+!C9!0\*/!8%,!%14%'14%8!&0!%1+!\$\*/,,/N!

#### E8#'2##8.7)

 $L\%, !\$7//, 28!+\$7-9!, 6; '\$9, -!*!'\$24!87-12*'! 61I, -(6, 8\%\& -+!-, +142!8\&!*\$\%1, <, !8G\&! \\ \&CZ, \$81<, +N!A1/+\$N!>7*28!8*81<, !*2*'9+, +!+&74\%8!8\&!, <*'7*8, !8\%, !, 00, \$8+!&0!*2!, */'9!; \%&2\&'\&41!$*'! \\ *G*/, 2, ++!+\$/, , 2124!*2-!128, /<, 281&2!; /&4/* 6! \$&2-7\$8, -!12!=24'1+\%!&2!@12-, /4*/8, 2!=24'1+\%! \\ ; \%&2\&'\&41!$*'!*G*/, 2, ++!+@1''+!*2-!D/*-, !0!A/, 2$\%!/, *-124!+@1''+!* 6&24!$\%1'-/, 2!, 2/&'', -!12!*!A:! \\ +\%&\&'N!#, \$&2-'9M!>7*'18*81<, !*2*'9+, +!&0!-*8*!-, /1<, -!0/& 6!+8/7\$87/, -!128, /<1, G+!+&74\%8!8\&! \\ 1''7 612*8, !8\%, !/&', +!; '*9, -!C9!@, 9! 6, 6C, /+!&0!8\%, !+$\%&&'Q+! 67'81-1+$1; '12*/9!; /&0, ++1&2*'! \\ ', */2124!$& 6 672189!-7/124!8\%, !; /&\$, ++!&0!-, <, '&; 124!*2-!! 6; ', 6, 28124!8\%, !'18, /*$9!+$/,, 2124! \\ *2-!128, /<, 281&2N!:2!-1+$7++124!&7/!012-124+M!G, !G1''!01/+8!87/2!&7/!*88, 281&2!8&!8\%, !>7*2818*81<, !! \\ /, +7'8+H!8\%, 2!8&!8\%, !>7*'18*81<, !/, +7'8+N!!*$ 

!! e 18%!/, +; , \$8!8&!&7/!01/+\$!/, +, \*/\$%!&CZ, \$8!<, \$!G, !0&72-!8%\*8!A:!\$%1'-/, 2!1-, 28101, -!\*+!\*8(/1+@! 0&/!/, \*-124!-1001\$7'81, +!&2!8%, !C\*+1+!&0!\*2!=24'1+%!; %&2&'&41\$\*'!\*G\*/, 2, ++!+\$/, , 2124!\*-6121+\$, /, -! 12! \*: 12!%, !0\*''!&0!@12-, /4\*/8, 2!6\*-, !+142101\$\*28!4\*12+!12!=24'1+%!; %&2&'&41\$\*'!\*G\*/, 2, ++!\*++, ++, -!12! +: /124!&0!8%, !+\*6, !9, \*/!0&''&G124!; \*/81\$1; \*81&2!12!8%, !128, /<, 281&2N!H&8\*C'9M!8%, !\$%1'-/, 2!12!&7/! +\*6; ', !6\*-, !+142101\$\*28!4\*12+!8\*2-\*/-!+\$&/, +N!L%1+!012-124!\*88, +8+!8&!8%, !, 001\$\*\$9!&0!8%, ! ; %&2&'&41\$\*'!\*G\*/, 2, ++!128, /<, 281&2!; /&4/\*6N!L%, !012-124!!\*88, +8+!8&!8%, !, 001\$\*\$9!&0!8%, ! ; %&2&'&41\$\*'!\*G\*/, 2, ++!128, /<, 281&2!; /&4/\*6N!L%, !012-124!!+!\*2!!6; &/8\*28!&2, !\$&2+1-, /124!8%, ! \$/181\$\*'!\*G\*/, 2, ++!:\*G\*/, 2, ++!; '\*9+!12!8%, !\*\$>71+181&2!&0!+@1'', -!G&/-!/, \*-124!\*6&24!C&8%!

8%, !+;/124!&0!@12-,/4\*/8,2!&0!\*!4/&7;!&0!\$%1'-/,2!G%&!6,8!8%,!12181\*'!\$78(&00!\*2-!-1-!2&8!/,\$,1<,! 8%,!128,/<,281&2!1+!2,,-,-!8&!\$'\*/109!8%,!,00,\$8+!&0!8%1+!,\*/'9!'18,/\*\$9!12181\*81<,!&2!8%,!-,<,'&;6,28! &0!;%&2&'&41\$\*'!\*G\*/,2,++N!

r 7/!\*2\*'9+, +!07/8%, /!/, <, \*', -!8%\*8!=24'1+%!; %2%'41%'!\*G\*/, 2, ++!\*++, ++, -!\*8!; &+8( 128, /<, 281&2!G\*+!0&72-!8&!6\*@, !\*!; &+181<, !&28/1C781&2!8&!A/, 2%!/, \*-124!!2!8%, !+; /124!&0!D/\*-, ! 0N! r 7/!/, +7'8+!G, /, !&2+1+8, 28!G18%!012-124+!&0!; \*+8!, \*/'9!1-, 28101\$\*81&2!\*2-!128, /<, 281&2!+87-1, +! &2-7\$8, -!12!\*!A:!+, 88124!G%1\$%!12-1\$\*8, +!8%\*8!, \*/'9!+\$/, 2124!\*2-!128, /<, 281&2!\*/, !, 00, \$81<, !12! +7; ; &/8124!8%, !-, <, '&; 6, 28!&0!A/, 2\$%!/, \*-124!+@1''+!12!'\*8, /!4/\*-, +!\*2-!8%\*8!8%, 9!\$\*2!C, ! &2-7\$8, -!12!=24'1+%18%, !\$%1'-/, 20+!+8/&24, /!'\*247\*4, !`, N4NN! e 1+, !b !5%, 2!dPOPh! e 1+, !, 8!\*'NN!

 $*'\mathbb{N}!dPOgh! F */12\&<*(L\&--!,8!*'\mathbb{N}!dPOPa\mathbb{N}!A/\&6!*!;/*\$81\$''!;,/+;,\$81<,\mathbb{M}!,*/'9!*++,++6,28!\&0!A:!$ 

, <1-, 2\$, (C\*+, -!8, \*\$%124!; /\*\$81\$, +\$!\*2-!&24&124! 6 &218&/124!&0!+87-, 28!; /&4/, ++!8&!120&/6! /, 012, 6, 28+!12!\*++, ++6, 28!\*2-!; /\*\$81\$, \$!L&4, 8%, /\$!%, 9!/, 12<, 28, -!\$'\*++/&&6!; /\*\$81\$, !12!\*!G\*9! 8%\*8!/, 0', \$\$, -!8%, 1/!+%', -!; /&0, ++1&2\*'!4/&G8%!\*2-!0&+8, /, -!\*!\$&'', \$\$1<, !+, 2+, !&0!/, +; &2+1C1'189!0&/! +87-, 28!', \*/2124N!5&''\*C&/\*81&2!(!G18%12!\*2-!\*\$/&++!; /&0, ++1&2\*'!-1+\$1; '12, +!(!G\*+!\*8!8%, !%, \*/8!&0! 8%, !. 3 5 0+!G&/@N!L&!8%1+!-\*9M!8, \*\$%124!+8/\*8, 41, +!\*2-!8%, !\$%28127, !8&!C, !/, 012, -!&2!8%, !C\*+1+!&0!+87-, 28!-\*8\*M!12; 78!0/&6!8%, !. 3 5 0+!/, +, \*/\$%! \$\$ 6 6 721890+!&24&124!\$&''\*C&/\*81<, !', \*/2124N!L%, !16; &/8\*2\$, !&0!8%1+! G&/@!\$\*22&8!C, !&<, /+8\*8, -1!8%/&74%!8%, 1/!, 00&/8+M!, >7189!6\*9!C, !\*\$%1, <, -!0&/!\*''!+87-, 28+N!!

 $! ! 2 \& \ C', !0, \$ 87/, !\&0!8\%, !! \$ \& \& '0+! . 35!G \ast !!18+!128, 4/\$1\& 2!\&0!8\%, !; \ast /, 28+!\&0!+8/744'124! /, \ast -, /+!12!8\%, !', \ast /2124!; /\& , ++N! e \%, 2!0& 7/!&0!8\%, !\$\%1' - /, 2!0*1', -!8\&!6, ,8!+7\$\$, ++!\$/18, /1*!&2!*''! *+; ,\$8+!&0!; \%& 2\& & 41\$*'!*G*/, 2, ++!0\& ''& G124!8G\&!/&72-+!&0!@12-, /4*/8, 2!128, /<, 281& 2M!8\%, ! /, +&7/\$, !*2-!'18, /*\$9!8, *$\%, /+!6, 8!G18\%!8\%, 1/!; */, 28`+a!8\&!120\&/6!8\%, 6!&0!8\%, 1/!$\%1' - Q+!-1001\$7'81, +! *2-!-1+$7++!G*9+!8\%*8!8\%, 9!614\%8!C, $\&6, !12<&'<, -!12!+7; ;&/8124!8\%, 1/!$\%1' - Q+!'18, /*\$9!', */2124N! L\%, !8, *$\%, /+!+\%', -!8\%, 1/!@2&G', -4, !*C&78!8\%, !16; &/8*2\$, !&0!; \%& 2& & 41\$*'!*G*/, 2, ++!8\&!, */'9! /, *-124!*$\%1, <, 6, 28!G18\%!; */, 28+N!L\%, 9!; /&<1-, -!\%2-&78!*$81<181, +!8&!+\%*/, !G18\%!8\%, !; */, 28+!8&!$ 

#### C8 3 8\$&\$8.7#)&7/);.7'52#8.7#)

!

 $X_{+}; 18, 18\%, 1'1 6 18*81\&2+118\%, 1G\&/@!\&018\%, 1A: 1+\%\&\&'Q+1.35!\&00, /+!*!6\&-, '!8\%*8!6*9!C, !$  16; ', 6, 28, -1C9!&8%, /!+%&&'18, \*6+!8&!+7; ; &/8!, I\$, ;81&2\*'!', \*/2, /+!12!A:N!:2!\*--181&2!8&! , 2%\*2\$124!, >718\*C', !\*\$\$, ++!8&!8%, !; /&4/\*6N!\*!\$&/, !; /12\$1; ', !&0!; 7C'1\$'9!072-, -!, -7\$\*81&2!12! 5\*2\*-\*118%, !6&-, '!&00, /+!\*!6, \*2+!&0!/, -7\$124!\*88/181&2!-7, !8&!/, \*-124(/, '\*8, -!-1001\$7'81, +N!:2-, -N!) \*\$/&++!8%, !\$&728/9M!/, 8, 281&2!/\*8, +!12!A:!\*/, !; \*/81\$7'\*/'9!'&G!\*6&24!\$%1'-/, 2!G%&!+8/744', !8&!', \*/2! 8&!/, \*-1`5.AM!dP0]aN!=\*/'9!+\$/, 2124!\*2-!128, /<, 281&2!12!; %&2&'&41\$\*'!\*G\*/, 2, ++!\*/, !@, 9!8&! /, -/, ++124!8%1+!8/, 2-M!+12\$, !; %&2&'&41\$\*'!\*G\*/, 2, ++!1+!\$/181\$\*'!8&!8%, !\*\$>71+181&2!&0!+@1''+112!G&/-!  $/, *-124!*6\&24!C1'1247*'!\$\%1'-/, 2!`, N4W!!) /7\$@! b!D, 2, ++, N!0]]_aN!F\&/, &<, /M!16; ', 6, 28124!$ 

,>718\*C', !\$'\*++/&& 6 !; /\*\$81\$, +!12!A: !\*16, -!\*8!6, ,8124!8%, !', \*/2124!2, , -+!&0!-1<, /+, !+87-, 28+!1+!@, 9!
8&!6, ,8124!8%, !; /&4/\*60+!4&\*'!&0!; /& 6&8124!\*--181<, !C1'1247\*'1+6N!8%\*8!1+M!8%, !-,<, '&; 6, 28!&0!
;/&01\$1, 2\$9!12!&/\*'!\*2-!G/188, 2!+@1''+!12!C&8%!A/, 2\$%!\*2-!=24'1+%M!0&/!\*''!5\*2\*-1\*2!\$%1'-/, 2N!)</pre>

!

5%724 // #N! 5%, 2M!KM! b !D, <\* M!= N!' dPO] aN!X, 2+8/7 // 2+8/7 /

8/\*2+0,/!12!C1'1247\*'!/,\*-124!-,<,'&; 6,281!"2!128,/\*\$81<,!0/\*6,G&/@N!

M! M!Og](0^ON!!

!

5'\*/@M!. M! J 7'6, N! 5 M! b !#2&G'124M! F N!`dPP\_aN!:2-1<1-7\*'!-100, /, 2\$, +!12!? "H!\*2-!/,\*-1241!"!

/,+;&2+,!816124!\*2\*'9+1+N! M! M! cf(k^N!!

5&6,\*7N!3N!5&/61,/N!.N!D/\*2-6\*1+&2N!=NN!b!3\*\$/&1IN!XN!`0]]]aN!"!'&24187-12\*'!+87-9!&0!!!

# <u>%88;+lyyGGGN,-7N4&<N6CN\$\*y\*227\*'/,;&/8+y-&\$+y/,;&/8N;-0</u>!!

 $F */12 \& < (L\& - -W! \#N! J W! ) \% * \& W! j W! b! ) , /2\% * / - \& W! F W! `dPOPaN! . \% \& 2\& '\& 41 \$ * '! * G* / , 2 , ++! + @1'' +!12!8\% , ! \\ \& G\& !'*247 * 4 , +! \& 0! F * 2 - */12 , = 24'1 + \%! C1'1247 * '! \$\%1' - / , 2N!$ 

#\$\*2'&2N!XN! F M!m, ''7812&M!AN!? M!#6\*''M!#N!DM!A\*27, ', M!XN!. M! b !#G, ,2,9M!jN! F M!`dPP\_aN!

#,<,/,!/,\*-124!-1001\$7'81,+Š 5\*2!8%,9!C,!;/,<,28,-x!" !\$&6;\*/1+&2!&0!;/,<,281&2!\*2-!

128,/<,281&2!\*;;/&\*\$%,+N!  $M! \ gaM!dP](ddcN!!$ 

#%7N! J M!., 24N! J M! b! F\$)/1-, (5%\*24N!5N!`dPPkaN!.%2&'&41\$\*'!\*G\*/,2,++!12!9&724!5%12,+,!

OcO(OkON!)\$%1'-/,2N!

#\$%7,', M! 5 N! F NM! b!) &7-/, \*7M!XN!`dPPkaN!. %&2&'&41\$\*'!\*G\*/,2,++!128,/<,281&21!),9&2-!8%,!C\*+1\$+N!! #2&G'124M! F N! j \M! b ! J 7' 6 . M! 5 N! dPOdaN! "227\*'!? ,+ ,\*/\$%!? ,<1, G1!L% , !2\*87/, !\*2-!\$'\*++101\$\*81&2!&0!

/,\*-124!-1+&/-,/+,,\*!\$&66,28\*/9!&2!;/&;&+\*'+!0&/!X#F<sup>†</sup>\_N!

 $\mathbb{M}$  `\_a $\mathbb{M}$  ] f(^Pc $\mathbb{N}$ 

#8\*81+81+5\*2\*-\*! dPdOaN!L\*C', !fc(OP(PPP](PON!H76C, /!&0!+87-, 28+!12!&001\$1\*'!'\*247\*4, +!!!

;/&4/\*6+M!;7C'1\$!,',6,28\*/9!\*2-!+,\$&2-\*/9!+\$%&&'+M!C9!;/&4/\*6!89;,M!4/\*-,M!\*2-!+,IN!

?, 8/1, <, -!0/& 61!%88; +1yyGGG0 PN+8\*8\$\*2N4\$N\$\*y80y8C'0y, 2y8<N\*\$81&2x; 1-tfc0PPPP]P0! #8&''M!3M!) &'\*6M!?M!F\$F\*%&2M!" M! e \*''\*\$, M!FM!b!L%&6\*+M!#N!`dPP^aN!./&0,++1&2\*'!',\*/2124!

\$&6 672181,+1! "!/,<1,G!&0!8%,!'18,/\*87/,N!  $M! \ gaM! ddO(d_kN!!)$ #8&''M!3M!b!3&71+M!BN!#N!`dPPcaN!  $\mathbb{N}! F D/*G(J1''!=-7*81\&2\mathbb{N}!)$ 

m\*74%2N!#N! in e \*2E, @N!#N!312\*2(L%&6;+&2N!\*2-!5N!#N!F7//\*9N!`dPPcaN!F&218&/124!?,+;&2+,!8&!

#7;;', 6, 28\*'!#, /<1\$, +!0&/!#87-, 28+!\*8!?1+@!0&/!?, \*-124!X1001\$7'81, +1! J 14%!\*2-!3&G!

?,+;&2-,/+N!:2!8%,!J\*2-C&&@!&0! M!, -18, - !C9!#N!?N!j16, /+&2M! FN!

BN!) 7/2+N!\*2-! "N! FN!m\*2X, /J, 9-, 2N!`; ; N!dfg,, dgfaN!#; /124, /!

 $m, /\%, <, 2M! 3N!^{dPPcaN!} = */'9!C1'1247*'1+6M!'*247*4, !8/*2+0, /M!*2-!; \%&2&'&41$*'!*G*/, 2, ++N!$ 

 $M! \quad faM!gd (gf]N!!!$ 

e \*42,/M!?N!BM!L&/4,+,2M!jN!BM!?\*+%&88,M!5N! "M!b!.,\*/+&2M!HN!"N!`0]]]aN!

&/4\*21E\*81&2+1!#7;;&/8+!\*2-!C\*//1,/+!8&!,-7\$\*81&2\*'!/,0&/6N!

### 0(fdN!)

 $e_{1+, \text{N}!H\text{NM}!b!5\%, 2\text{M}!K\text{N!}^dPP]a\text{N}!=*/'9!1-, 28101\$*81\&2!*2-!128, /<, 281\&2!0\&/!*8(/1+@!/,*-,/+!12!A:\text{N}!e_{\%}*8!)$ 

G&/@+1!?,+,\*/\$%!128&!;/\*\$81\$,N!

!

!!

e 1+, N!HW! b ! 5%, 2N!KN!`dPOPaN! " 8(/1+@!/,\*-,/+!12!A:1!=\*/'9!1-,28101\$\*81&2!\*2-!,\*/'9!128,/<,281&2N!

 $\mathbb{M}^{\mathbb{N}} \quad \mathrm{da}^{\mathbb{N}}\mathrm{Odk}(\mathrm{Og}) \mathbb{N}^{\mathbb{N}}$ 

e 1+, M!HM! b !5%, 2M!KN!`dPO\_aN!=\*/'9!128, /<, 281&2!0&/!+8/744'124!/, \*-, /+!12!4/\*-, !&2, !A:N!

## M! M!dkk,,fP^N!!