





%&' ()* +&(,"- ."/01 2"34"5067"%2893/: 29;")<1 "-9> 1 "?82"@2/?29">="59243A2/?307"" 34?>9. "0?"

B>6?829/"- 2?8>A34?"C/3D2943?.;""

-)E&B,"- ."/01 2<4"B31 >/"- 3724;")<1 "0/"04434?0/?"F9>=244>9"0?"?82"B0/=>9A"BG8>>7">="56H73G"

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&69>F20/"B?6A324"0/A"0"F9>=244>9">=": >D2



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(64430"F>73G. ;"L/A"04"F09?">="834"92D32NM"N2"3/"?82"R=3G2">="5>73G. "570//3/: W0/A"
 (3G809A"" 0044"N04"?82"820A">="3?"?82/W0G?6077. "N9>?2"0" 1 2 1 >"?83/J3/: "0H>6?"
 N80?"3?" 1 3: 8?" 1 20/"N292"N2"?>="29" (64430" 1 2 1 H29483F"3/"* LKR;"B>"834"N04"
 0/>?829"34462">="G>/?2/?3>/"H2?N22/"?82"@73/?>/"0A 1 3/34?90?3>/"0/A"?82"Y27?43/"
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 A3A"N80?"3?"/22A2A"?>"A>"?>"0>3/"* LKRW0/A"56?3/"80A"2UF73G3?7. "04J2A"07920A. W
 SQQ,Q_QQT"N80?"N292"?82"G80/G24"?80?" (64430"G>67A"0>3/"* LKR`"K82/"?80?"N>67A"
 07920A. "720A" (64430"3/"0"A392G?3>/"?80?"N>67A"H2"H2/2=3G307M"N2"?8>6: 8?"0?"7204?M
 3/?29/0?3>/077. ;"K82" 1 2 1 >"/2D29"N2/?"D29. "=09;"V 2"A3A"42/A"3?"6F"?>"?82"42G92?09. "
 >="4?0?2;"

B>)"N>67A"40. "?80?M"93: 8?"=9 > 1 "?82"H2: 3//3/: ">="82"%648"0A 1 3/34?90?3>/M
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 F2>F72"N8>="0D>92A"0" 1 >92"F90: 1 0?3G"F>73G. "?>N09A" (64430W=>G643/: ">/"A2073/: "
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 A2 1 >G90G. "0/A"86 1 0/"93: 8?4"0/A"N80?"N04"80FF2/3/: "3/?29/077. "3/" (64430;"L/A"3/"
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 2 1 H09J2A">/"0"F>73G. ">="92F92443>/MH6?"?8>42"344624"N292"?8292M)"N>67A"40. "93: 8?"
 =9 > 1 "?82"4?09?M0/A">="G>6942"?82"344624": >?" 1 >92"G>/?2/?3>64"04"?3 1 2"N2/?"H. ;"



K8292"N292"4> 1 2"3/"?82"%648"0A 1 3/34?90?3>/"N8>"N292" 1 >92"4J2F?3G07"
 0H>6?" * LKR"2/709: 2 1 2/?M#H6?". >6"A3A": 2?"?82"%3: "%0/: "3/"\$QQ_M#N82/" . >6"
 0A 1 3??2A"?82"924?">="@2/?907"&69>F2"0/A"?82"?8922"%07?3G"4?0?24"?80?"80A">="G>6942"
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 83 1 427="N04"0A0 1 0/?"0H>6?"/>?"/7. "?82"/22A"=>9"?82"\$QQ_"2UF0/43>/M#H6?"?82"
 F>443H373?. ">="69?829"2UF0/43>/M#04"N292"0"/6 1 H29">="F2>F72"N8>"N>9J2A"3/"834"
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(64430"F90: 1 0?3G077. ">/344624"N8292"N2"80D2"G> 1 1 >/3/?2924?4"0/A"?80?"N2"A>/?"
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80D2"?>"H2"D29. "G092=67">=?0J3/: "0G?3>/4"?80?"N>67A"92077. W=9> 1 "?82" (64430/"0/A"
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>?829;"

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F2>F72"N8">"G> 1 2"?>"?834"N3?8"0"H0GJ: 9>6/A"J/>N72A: 2">="@2/?907"0/A"&04?29/"
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N04"80FF2/3/: "A> 1 24?3G077. "3/" (64430"0/A"074>"46FF>9?3/: " 1 >D2 1 2/?4M"H>?8"3/43A2"
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 SZ90 1 29T"N04"3/"=0D>9">="=69?829"* LKR"2/709: 2 1 2/?;"K8292"92077. "N292"b63?2"A22F"
 A3D343>/4"?8292"SN3?83/"?82"%648"0A 1 3/34?90?3>/T;"
 %&' () * + & ("K80/J". >6;"L/A"4>" 1 >D3/: "?>"?82"F9243A2/?307"9270?3>/4" 1 >92"A392G?7. W4>"
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 &69>F20/" 1 2A30"80A"H273??72A"83 1 M"A3A/<?"0J2"83 1 "?80?"4293>647. ;" 34"92G2F?3>/"3/"
 &69>F2M"V 24?29/"&69>F2"F09?3G67097. M"N04"/>?"D29. ": >>A;"L/A"?82/"82"N2/?"?>"
 B7>D2/30M"0/A")?83/J">/2">="?82"3 1 F>9?0/?"F>3/?4"34"?80?"?82"N0. "?80?"59243A2/?"
 56?3/"SQQ,!\$,QQT"?920?2A"59243A2/?"%648">/"?8239"=394?" 1 22?3/: "N04" 1 6G8" 1 >92"
 924F2G?=67"?80/"?82"N0. "82"N04"?920?2A"H. "4> 1 2">="?82">?829"&69>F20/"720A294;"
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074>"J/>NMM'OGG>9A3/: "?>"59243A2/?"%648M"?80"?82" 1 22?3/: "4?09?2A">=="N3?8"56?3/"
 920A3/: "=9> 1 "/>?2"G09A4;"L/A"?82/"3?"N04"59243A2/?"%648"N8>"04J2A"831 "0H>6"?82"
 G9>44"?80?"59243A2/?"56?3/"N04"N2093/: ;"L/A"?82"4?>9. "?8292"34"?80?"56?3/"4"
 : 90/A 1 >?829^4"8>642"80A"H69/2A"A>N/"0/A". 2?"?82"G9>44"80A"H22/"40D2A;"B>"?82. "
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 9270?3>/4"H2?N22/"?82"F9243A2/?4"092"2U?92 1 27. "3 1 F>9?0/?M' 1 >92"4>"?80/"3/" 1 0/. "
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F04?"[Q". 2094"43/G2"?82"B>D32?"G>770F42"N04"?82"=077">="\$QQ!"N82/"?82"C;B;"0/A" (64430"
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 G01 F03: /"3/"L=: 80/34?0/"?>"9>6"?82"K073H0/;"K82"1 22?3/: "3/"B7>D2/30"=0G373?0?2A"
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%&' ()* +&(", "L/A"0/>?829"F69F>42"?80?">=?80?"1 22?3/: "N04"?>"G>/D2. "?82"3/?2/?3>/"?>"
 N3?8A90N"=9> 1 "?82"L/?3#%07734?3G" - 344372"K920?. M3=")<1 "/>?"1 34?0J2/;"K82" (64430/"
 422 1 2A"?>"80D2"G> 1 1 6/3G0?2A"F92??. "G72097. "?80?"?82. "A3A/<?"N0/?"?80?"?>"80FF2/;"
 V 8. "A3A"?82"%648"0A 1 3/34?90?3>/" : > "=>9N09A"N3?8"3?"0/A"N3?8"F70/4"=>9"1 344372"
 A2=2/42"1 >92"H9>0A7. `"

BK&* K,"B>"?834"N04"4> 1 2?83/: "?82. "3/8293?2A;"K82"1 344372"A2=2/42"F9>: 901 "N04"
 4> 1 2?83/: "?80?"80A"H22/"F29G>70?3/: "=>9"0"A2G0A2M?8>6: 8"/>?"2D29. >/2"3/"?82"
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 C/3?2A"B?0?24M": 3D2/"3?4"2G>/> 1 3G"0/A">?829"F9>H72 1 4;"B>"?82"N3?8A90N07"=9> 1 "?82"
 L%- "K920?. "N04"92077. M=9> 1 "?82" (64430/"F>3/?">="D32NM"422/"04"0"43: /">="A34924F2G?"
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 A2=2/42"G>67A"H2"A392G?2A"0: 03/4?" (64430"3?427=;"L/A"59243A2/?"%648"A3A"G> 1 2"3/?>"
 >=3G2"0/A"0FF>3/?2A"F2>F72"73J2"f>8/"%>7?>/"0/A">?8294"N8>"N292"D29. "1 6G8"
 >FF>42A"?>"@>7A"V 09#290"09 1 4"G>/?9>7"?920?324M3/G76A3/: "?82"L%- "?920?. M"0/A"?82. "
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%&' ()* +&(",L/A"8>N"N>67AW""

-)E&B,"B>99. "5067M"GO/"N2"064?"J22F": >3/: "N3?8"?834"D29H07"2097. "?69H672/G2"?82 1 2M3="N2"
 1 0. ` "V 2D2"80A"Ph!!M"N2D2"80A"L%- ;"V 80?"0H>6?"?82">?829"H3: "2F34>A2"3/"?82"
 2097. "%648". 2094M"0/A"?80?4"?82")90b"V 09`"@0/". >6": 3D2"64"0"42/42">="8>N"3?"422 1 2A"
 ?>". >6"?80?"?82" (64430/"720A29483F"920G?2A"?>"SQQ,Id,QQTM"6/A294?>>A"?8>42"2097. #
 \$QQ["A2G343>/4"3/"F09?3G6709` "

BK&* K,"B>"/>N"N2"G> 1 2"?>"?82"H2: 3//3/: ">="?82"73?0/. ">="G> 1 F703/?4"?80?"N2D2"8209A"
 =9> 1 "56?3/"0/A" (64430"43/G2"\$QQ\$;"B>"N2"48>67A"074>M"H. "?82"N0. M"40. "?80?"0=?29"?82"
 N3?8A90N07"=9> 1 "?82"L%- "?920?. M"59243A2/?"%648"0/A"59243A2/?"56?3/"A3A"43: /"?82"



\$QQ\$"BR (K"?920?. W0: 03/M"0"H903/G837A">="F2>F72"73J2"f>8/"%>7?>/\WN83G8"N04/



: 3D2/"H932=3/: 4"3/"A3==292/"F09?4">=?82"C;B;": >D29/ 1 2/"MH6?"2D2/"=9> 1 "?82"
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D32NM"?82"3A20">="3/D043>/"0/A"A24?0H373X3/:"?834"F09?">=?82"N>97AM"/>?"?>="=09"=9> 1 "
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=0G?"80?"82" (64430"92077. "80A/?"H22/"G>/467?2A">/"?834"S?82"A2G343>/"?>"3/D0A2"
)90bT;)"?"80A"064?"H22/"3/=>9 1 2A;"

%&' ()* +&(",L/A"04". >6"064?" 1 2/?3>/2AM?82"G>7>9"92D>76?3>/4"G> 1 3/: "93: 8?">/"?82"82274"
>="?82")90b"3/D043>/W3=". >6"G>67A"2UF0/A"0"73??72"H3?">/"8>N"?82" (64430/4"D32N2A"
?8>42"0/A"G>67AM">9"48>67AM?82"%648"0A 1 3/34?90?3>/"80D2"80/A72A"?8239"0FF9>0G8"
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A3A"?82. "?0J2"0"H9>0A#H9648"0FF9>0G8"?>"?8>42"?8922` "

BK&* K,"R/2">="?82"2442/?307"F92 1 3424">=" (64430/"=>923: /"F>73G. "6/A29"56?3/W/>?">/7. "
6/A29"56?3/MH6?"F09?3G67097. "/>N"6/A29"56?3/W34"?80?" (64430"A>24"80D2"0"93: 8?"?>"
0"4F8292">="F93D372: 2A"3/?2924?4"3/"?82"F>4?#B>D32?"4F0G2;"L: 03/M?80?"3?4"A2=2/42"
F293 1 2?29"34"A2=3/2A"/>?"04"?82"H>9A294">="?82" (64430/"\2A290?3>/"H6?"04"?82"
H>9A294">="?82"=>9 1 29"B>D32?"C/3>/M0/A"?82"3A20">="F9>#V 24?29/" : >D29/ 1 2/?4"
G> 1 3/: "/209"?>" (64430"N04"422/"04"0"?8920?M"N04"G29?03/7. "A2=3/2A"04"0"F>?2/?307"
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+2>9: 30"0/A"SQQ,\$_,QQT"80A"H22/">/2">="?82"704?"B>D32?"=>923: /" 1 3/34?294;" 2"A3A/?"
80D2"0": 920?"9270?3>/483F"N3?8" (64430W?8292"N292"0"7>?">="?2/43>/4WH6?"=9> 1 "?82"



?8239"G0/A3A0?2;" 2"N04"-9> 1 "?82"204?M0/A"?82. "42/?" 1 >/2. "0/A"F2>F72"?>"827F"

831 ;"L/A"?82/" . >6"80A"] 3J?>9"Y648G82/J>"96//3/: "0: 03/4?"831 M"N8>"80A"H22/"=>9"

0"?31 2"?82"820A">="82"@2/?907"%0/J;" 2"80A"0/"L 1 293G0/"N3=2W0G?6077. "0"=>91 29"

4?6A2/?">=" +2>9: 2?>N/"N8>)"?06: 8?W0/A"82"N04"044>G30?2A"N3?8"?82"C/3?2A"

B?0?24"0/A"&69>F2"0/A"?82"V 24?;"L



Y648G82/J>"N>/;"B>"=9> 1 "?82" (64430/"F>3/?">="D32NM"?82"C;B;"80/A"N04"?8292M"?82. "

G703 1 2A"3?"N04"077"46FF>9?2A"H. "?82"i4F2G307"429D3G24j">="?82"C;B;""

* >NM"N82/"3?"G0 1 2"?>"Z. 9: . X4?0/M"?8292"N292"4> 1 2"A3=292/"?344624"?8292"

H2G0642"N80?". >6"80A"3/"Z. 9: . X4?0/"N04"0"C;B;"S 1 373?09. T"H042W0/A"?80?"N04": >24"

H0GJ"?>"?82"3/3?307"G0 1 F03: /"3/"L=: 80/34?0/W0/A"?82"C;B;"H042M0/A"?82"

: >D29/ 1 2/?">="Z. 9: . X4?0/"?80?"N04"?82"/>D29?89>N/"N04"A>3/: "b63?2"N277"=9> 1 "?82"

C;B;"H042;"K8292"34"4> 1 2"2D3A2/G2"?80?M3/"\$QQaM"?82" (64430/4"3/"=0G?"N292"

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: >D29/ 1 2/?"?80?"92F70G2A"?82">/2"?80?"N04">D29?89>N/" 1 03/?03/2A"3?4"?324"?>"

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R90/: 2" (2D>76?3>/M. >6"80D2"?82"H2: 3//3/: ">=" 1 6G8": 920?29"G70 1 FA>N/"3/43A2"

(64430"0: 03/4?">FF>43?3>/": 9>6F4;""

%&' ()* +& ("L/A"3=")<1 "/>?" 1 34?0J2/"09>6/A"\$QQaW. >6"G0/"?277"64" 1 >92"4F2G3=3G077. W

. >6" 1 >D2A"=9> 1 "B?0?2"5>73G. "570//3/: "?>"?82" * 0?3>/07")/?2773: 2/G2"@>6/G37` ")4"?80?"

G>992G?` "

BK&* K,"B>)"N04"H0GJ"0?" +2>9: 2?>N/;"B>)"N04"3/"SQQ,[Q,QQT"?82" * 0?3>/07")/?2773: 2/G2"

@>6/G37"3/"\$QQ_ "0/A"\$QQaW4>"?8>42"?N>"G072/A09". 2094;"V 82/")"/3. 2A"H809"M080/3



(2D>76?3>/;"L/A"?82/)"N04WN277M"A>. >6"80D2"0"4F2G3=3G"b624?3>/". >6"N0/?"?>"
04J`"

%&' ()* +&(",)"N04"064?": >3/: "?>"04J"3=" . >6"G>67A"?277"64"0"73??72"H3?" 1 >92"0H>6?"?82"
A3=292/G24"H2?N22/"N>9J3/: "3/"?82"B?0?2"l 2F09?1 2/?"5>73G. "570//3/: M"0/A"?82"
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BK&* K,"B692;"B>"3/"?82"B?0?2"5>73G. "570//3/: M". >6"92"46FF>42A"?>"H2"A>3/: "7>/: 29#?29 1 "
?83/J3/: M"H6?">="G>6942". >6"-3/A">6?"D29. "4>>/"?80?". >6"G0/?"92077. "A">"82"7>/: 29#
?29 1 "?83/J3/: "6/7244". >6"92077. "J/>N"N80?4": >3/: ">/;"L/A"3"?80?"F>43?3>/M". >6"
80D2"?>"J22F">/"?>F">="N80?4"80FF2/3/: "3/"?82"92: 3>/07"H692064M"H6?". >6"092/?"
: 3D3/: "F>73G. "0AD3G2;"

K82" * 0?3>/07")/?2773: 2/G2"@>6/G37"43?4"0?>FWN82/)"N04"?8292M"3?"N04"!a"
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>/2"?80?"403A")90b"80A"N20F>/4">=" 1 044"A24?96G?3>/;"B">"N82/)"N04"?8292M"N2"
G29?03/7. "A3A"0" * 0?3>/07")/?2773: 2/G2"&4?3 1 0?2"7>>J3/: "0?" (64430"0/A"N80?"3?"N04"
: >3/: "?>"A">"3/"?82"=6?692;"L/A)"N377"40. ">/2"?83/: "0H>6?"?80?;)/?2924?3/: 7. "2/>6: 8M"
2D2/"3/"\$QQaM"3?"N04"D29. "A3=3G67?"0?"?80?"F>3/?"?>"3 1 0: 3/2"8>N"b63GJ7. " (64430"
N>67A"G> 1 2"H0GJ"04"0"N>97A"F>N29"SQQ, [\$,QQT"6/A29"56?3/;)"?83/J"0"?80?"F>3/?"N2"



* >NM?82">?829?83/: "?80?")"80D2"SQO, [_ .OOT"?>"40. "34"N82/")"4?09?2A"0?"?82"
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 G>>9A3/0?3>/"0/A"80A"F2>F72"/>?"H22/"4>"437>2A;"B">"N82/"?82. "42?"6F"?82"RI *)W
 0/A"?82"=394?"I *)"N04"L 1 H0440A>9"f>8/"* 2: 9>F>/?2WN2"?82/"483=?2A"=9> 1 "
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@2/?907"L430;"K8292"N04"0"93>?"3/"?82"F934>/"S3/"L/A30>/T;"L"/6 1 H29">="F2>F72"
044>G30?2A"N3?8"0": 9>6F"G0772A"LJ90 1 3. 0M"N83G8"N04"0/")470 1 34?": 9>6FM"80A"H22/"
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: 9>6F"?80?"N04/?"/2G2440937. "0"?299>934?": 9>6F"H6?"N04"0AD>G0?3/: "=>9"?8239"93: 8"?>"
N>9483F"3/"?82"N0. "?80"?82. "N0/?2A"?>;"Y>6"80A"0"F934>/"93>?M?82. "4> 1 28>N": >?"
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J3772A"N2"A>/??"92077. "J/>N"8>N"1 0/. "F2>F72M"H6"?3?4"F9>HOH7. "3/"?82"86/A92A4;"
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OH>6?"N80"?>"A>"OH>6?"?834;M"B2G92?09. "(6 1 4=27A"N04"4> 1 2>/2"N8>"H2732D2A"?80?"
3?"N04"D29. "3 1 F>9?0/?"S?>" 1 03/?03/" : >>A"?324"N3?8"?82": >D29/ 1 2/?">=")47> 1 "
Z093 1 >DT;"V 2"80A"0"H042"3/"CXH2J34?0/WN2"80A">/2"3/"Z. 9: . X4?0/M">/2"3/"
CXH2J34?0/W0/A"3?"N04"D29. "3 1 F>9?0/?"?">"J22F"?80?"H042"0/A"?80?M"04"82"831 427=" "
403AM"iK834"34"0"/23: 8H>98>>AM"04"3/" 1 0/. "/23: 8H>98>>A4"3/"?82"N>97AM"N8292"?8292"
092"/>"403/?4;j"V 829204"?82"B?0?2"l 2F09? 1 2/?M"0/A"F09?3G67097. "?82"H69206"A2073/: "
N3?8"86 1 0/"93: 8?4M"N0/?2A"?>"40/G?3>/"0/A"A3A"40/G?3>/"CXH2J34?0/"=>9"N80?"3?"
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F70. 2A"0/A"?82/" (64430/"3/?2/?3>/4M"N80?"N2"?8>6: 8?"SQQ,[d,QQT"N04": >3/: "?>"



80FF2/"3/"CXH2J34?0/;"B>"?80?"N04"0/>?829"1 00>9"34462"N3?8"N83G8"N2"80A"?>"

G>/?2/A"3/"?82"G>6F72">=". 2094"?80?)"N04"?8292;"

%&' ()* +&(",L/A"074>"3/"?80?"\$QQ_"I"\$QQa"90/: 2M?8292<4"?82"%648"92272G?3>/M"0/A"?82/M"3="

)"6/A294?0/A"G>992G?7. M?8292"N04"0/"0??2 1 F?W?834"1 3: 8?D2"2D2/"80FF2/2A"2097329"

93: 8?"0=?29"?82"=3446924">F2/2A"6F">D29")90bVW?>"F0?G8"6F"?82"9270?3>/483F"0"73??72"

H3?;"(3G2"804"?80?"=01 >64"F89042M"i 56/348"\90/G2M"3: />92"+291 0/. M"0/A"=>9: 3D2"

(64430;j)"=." >6"80A"?>"?07J"0H>6?"N80?"N2/?"N9>/: M"N8. "?80?"4>9?">="9242?"1 0. H2"

/2D29"80FF2/2AM">9"N8. "3?"N04"0"=0742"4?09?"H2?N22/M"40. M"\$QQ_"I"\$QQc"90/: 2M"N80?"

N2/?"N9>/: "?8292`"(3G2"A24G93H24": >3/: "?>" - >4G>N"0/A"804"0"D29. "?2/42"1 22?3/: "

N3?8"56?3/"0/A"?8292<4"?82"1 22?3/: "H2?N22/"%648"0/A"56?3/"3/"%90?3470DOM)"H2732D2"

3/"\$QQaM"?80?"34"0"7>N"F>3/?"3/"?8239"9270?3>/483F"?>: 2?829;"B>"G0/". >6"?07J"0"73??72"H3?"

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: 2??3/: "H0GJ">/"?90GJ"?8292`""

BK&* K,"B>)">7"H2: 3/"1 0. H2"N3?8"0"4?>9. ;)/"\$QQ_M"?82"(64430/4"=>9"?82"=394?"?3 1 2"80A"0"

1 22?3/: ">="4> 1 2?83/: "G0772A"?82"] 07A03")/?29/0?3>/07"i 34G6443>/"@76HM"N83G8"4?377"

2U34?4"?>A0. ;"L/A)"N04"0"/0?3>/07"3/?2773: 2/G2">=3G29M"H6?)"N04"3/D3?2A"?>"?834"

1 22?3/: ;)"?N04"0"1 22?3/: ">="=>923: /"2UF29?4">/"(64430;"L/A"3/"\$QQ_M"N2"N2/?"?)>"

(64430"S* >D: >9>A"0/A" - >4G>NT;"SQQ,_Q,QQT;"L/A"3/"=0G?M"N2"0993D2A"?8292"064?"3/"

?82"1 3AA72">="?82"8>4?0: 2"G30(9)- 0.3(23)- 0.2(:).0.2(/"2U)- 0.5(F)0.4(29)- 0.3(?4)0(6).3(9)-



?80"?82. "N292"/>"80FF. "N3?8"?82"N0. "?80?"9270?3>/483F"N04": >3/: M'H6?"N8. "N292"



Y>6"80A"?834"f0GJ4>/#] 0/3J"72: 3470?3>/": >3/: "H0GJ"?>!PeaM"N82/"?82"
 @>/: 9244"F0442A"?82"f0GJ4>/#] 0/3J"L 1 2/A 1 2/?M"N83G8"?32A"?82": 90/?3/: ">=" 1 >4?#
 =0D>92A"/0?3>/"4?0?64"?>"?82"B>D32?"C/3>/"?>"3?4"F>73G. ">/"f2N348"2 1 3: 90?3>/"0/A"
 2 1 3: 90?3>/"3/": 2/2907;"K82"B>D32?"C/3>/"G>770F42AW0: 03/M"?834"34"422/"3/" (64430M"3/"
 F>4?#B>D32?" (64430"F09?3G67097. M"04"6/A29 1 3/3/: "3?4"72: 3?3 1 OG. M"04"A34924F2G?"?>"
 (64430"H2G0642M"2D2/"6/A29" +>9H0G82DM"0/A"G29?03/7. "0=?29" +>9H0G82DM" (64430"
 9270U2A"3?4"2 1 3: 90?3>/"F>73G. ;)=. >6"N0/?"?>"720D2" (64430M. >6"G0/"720D2" (64430;"
 L/A"4>"?82. "J2F?"40. 3/: M"N8. "A>/<?". >6"92 1 >D2"?834"f0GJ4>/#] 0/3J"L 1 2/A 1 2/?"
 0/A": 3D2"64" 1 >4?#=0D>92A"/0?3>/"4?0?64M"N83G8"?82"C;B;"0==>9A4" 1 >4?"G>6/?9324"N3?8"
 N83G8"3"?90A24;"L/A". 2?"2D29. "?3 1 2"?834"G0 1 2"6FM"?8292"N04"4> 1 2">?829": 9>6F"3/"
 @>/: 9244"?80?"403AM"i * >M"/>M"N03?"0" 1 3/6?2;"V 2"A>/<?"73J2"N80?" (64430"34"A>3/: "8292"
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?>"920G8">6?"?>"(64430;"B>1 2?83/: "73J2"73=?3/: "f0GJ4>/#] 0/3JM'SQQ,a\$,QQT"N83G8"

A3A/?"80FF2/"6/?3"\$Q!!M"N>67A"80D2M")?83/JM: >/2"4>1 2"NO. "?>"G80/: 3/: "?82"

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?69="H0??724W/>?"4>"1 6G8"?69="H0??724M#H6?"074>"92077. "A340: 922 1 2/?4"0H>6?"8>N"?>"

?920?" (64430"G>/?3/62;"



A34F6?24M'. >6"80A"=9>X2/"G>/=73G?4"?8292;"L/A"?80?"N>67A/?"80D2"1 0A2"42/42"

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0??2 1 F?"H. "?82"%648"0A 1 3/34?90?3>/"?>"F29460A2"+29 1 0/. "0/A"\90/G2M"H6?"3?"N04/?"

: >3/: "D29. "N277;"SQQ,ac,QQT"

K82"F09?324"48>N"6F"3/"%6G80924?M0/A"/>?83/: "804"H22/"A2G3A2AM0/A"56?3/"

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& 1 F392M'H6? 1 >4?>="3?"N04"F09?">="?82" (64430/"& 1 F392;j"L/A"?834"34"0"F89042"?80?"
824"92F20?2A"0"/6 1 H29">="A3=292/?"?3 1 24;"L/A"4>"3?"422 1 4"?>" 1 2"?82"F9>H72 1 "N3?8"
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+2>9: 30"=9> 1 "0>3/3/: " * LKRM'H6?"074>"0//2U3/: "@93 1 20M'H2G0642"56?3/W>/2">="?82"
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N>9932A"?80?". >6<A"422" * LKR"483F4"3/"B2D04?>F>7M3/"@93 1 20;"B>"3/"92?9>4F2G?M". >6"
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?>"A2=20?"?82"+2>9: 30/4M: 3D2/"SQ!,Q\$,QQT"?82"31 H070/G2"3/" 1 373?09. "=>9G24;"Y24M"?82"
 C/3?2A"B?0?24M"N2"A3A"80D2"0"F9>: 90 1 M"0"?903/"0/A"2b63F"F9>: 90 1 "N3?8"?82"
 +2>9: 30/4"09 1 . M"N8292"N2<A"S?82"C;B;" 1 373?09. T"827F2A"?82 1 M"0/A"?834"80A"?>"A>"
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* >NM"N80?"3?"A3A"A>"0?"?82"2/A">="82"N09"N04"?>"G6?">=">9"G>/?0G?4"N3?8"

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0A 1 3/34?90?3>/M>9"A3A"?82. " 1 0J2"?8239">N/" 1 3406A: 1 2/?4"0H>6?"SQ!,Q_,QQT"?82"
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BK & * K , " B > " ? 8 2 " ? 3 1 2 4 " N 8 2 / " ? 8 3 / : 4 " 8 0 D 2 " N > 9 J 2 A " H 2 4 ? " 0 9 2 M = 3 9 4 ? " > = " 0 7 7 M " N 8 2 / " . > 6 " 8 0 D 2 " : >> A " 9 2 7 0 ? 3 > / 4 " H 2 ? N 2 2 / " ? 8 2 " F 9 2 4 3 A 2 / ? 4 W . > 6 " 4 0 3 A " (2 0 : 0 / " 0 / A " + > 9 H 0 G 8 2 D " N 0 4 " G 2 9 ? 0 3 / 7 . " > / 2 " 2 9 0 M @ 7 3 / ? > / " 0 / A " Y 2 7 ? 4 3 / " N 0 4 " 0 / > ? 8 2 9 M " 0 / A " > = " G > 6 9 4 2 " % 6 4 8 " 0 / A " 5 6 ? 3 / ; " L / A " 3 = . > 6 " 7 >> J " H 0 G J M . > 6 " G 0 / " 4 0 . " ? 8 2 " ? 3 1 2 4 " N 8 2 / " ? 8 2 " 9 2 7 0 ? 3 > / 4 8 3 F " 8 0 4 " N > 9 J 2 A " H 2 4 ? " 3 4 " N 8 2 / " N 2 " 3 / " S Q ! , Q [, Q Q T " = 0 G ? " N 2 9 2 " 0 7 7 3 2 A " 0 : 0 3 / 4 ? " 0 " G > 1 1 > / " 2 / 2 1 . M " 0 / A " N 2 " 8 0 A " 7 3 1 3 ? 2 A " : > 0 7 4 ; " B > " : > " H 0 G J " ? > " V > 9 7 A " V 0 9 ") ; " V 2 " 8 0 A " ? 8 2 " : 9 0 / A " 0 7 7 3 0 / G 2 W B ? 0 7 3 / M (> > 4 2 D 2 7 ? M " 0 / A " @ 8 6 9 G 8 3 7 7 ; " V 2 " 8 0 A " 0 " G > 1 1 > / " 2 / 2 1 . M ' 3 ? 7 2 9 ; " V 2 " N 0 / ? 2 A " ? > " A 2 = 2 0 ? " 8 3 1 ; " V 8 2 / " 8 2 " N 0 4 " A 2 = 2 0 ? 2 A M " ? 8 0 ? " 9 2 7 0 ? 3 > / 4 8 3 F " = 2 7 7 " 0 F 0 9 ? ; ""

L / A " 3 / ? 2 9 2 4 ? 3 / : 7 . 2 (" N) 0 . 4 " (2 1 T f 5 0 (6) - 0 1) - 0 . 0 . 5 (! ! ! ? 8) 0 . 4 (0 ? " 9) - 0 . 2 (>) 0 . 5 (> 9) - 0 . 3



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8. A9>G09H>/4;"L/AM"2D2/"?8>6: 8"N2"092"/>N"31 F>9?3/: "1 >92" (64430/">37"H2G0642"

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0/A"N3A2/"?82"4?0J28>7A294;"K82/M"82" (64430/"4. 4?2 1 "34"?>F#820D. M"09?3G67097. "

6/A29"56?3/;"C/A29"56?3/M3/4?3?6?3>/4"80D2"H2G> 1 2"7244"31 F>9?0/?;")/=>91 07"

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- 0. H2"?82. "N0/?2A"?82"RD07"SQ!;!d,QQT"R=3G2" 1 22?3/: "3/"\$QQ!W?82. ": >?"82"RD07"

R=3G2" 1 22?3/: WH6?"82"@90N=>9A">/2"N04"D29. "31 F>9?0/?;"V 82/"?82. "42/?"8239"

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