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%&'''(&)\*)''+,"-./,0'1+,2"+0"+,3',4'4"3."56'576'"+,4+8+4/710"9.6"':51.;:',3"70"-./,0'1.6"':4/-73.60"+,"-.11'2'0"7,4"/,+8'60+3+'0<"7,4"70"1'74'60"+,"7"876+'3;".9"-./,0'1+,2"0'33+,20"=')2)<"-1+,+-71":',371"&'713&"-./,0'1+,2<"0-&..1"-./,0'1+,2>)"%&'"56.267:"56.8+4'0"4.-3.671"03/4',30":2+3&"3&'"+,9.6:73+.,"7,4"0@+110"6'A/+6'4"3."-766;"./3"0-&.1761;"6'0'76-&<"1'74".627,+B73+.,0<"7,4"-6'73'",'?"@,.?1'42')"

 $\%\&'".99+-+71",7:'".9"3\&'"(\&)*)"4'26''"56.267:"+0"7"(\&)*)"+,"C4/-73+.,"?+3\&"7"\\D.,-',3673+.,"+,"D./,0'1+,2)"\%\&'"567-3+-71"3+31'".9"3\&'"56.267:"+0"7"(\&)*)"+,"D./,0'1.6"\\C4/-73+.,"7,4"E/5'68+0+.,)"$ 

 $\%\&'"(\&)*)"56.267:"+,"D./,0'1+,2"73"F14"*.:+,+.,"G,+8'60+3;"=F*G>"7--'53'4"+30"9+603" \\ 4.-3.671"03/4',30"+,"E56+,2"0':'03'6"!HHI"7,4"&70"J'',"7--6'4+3'4"J;"3&'"D./,-+1".," \\ K--6'4+373+.,".9"D./,0'1+,2"7,4"L'173'4"C4/-73+.,71"(6.267:0"=DKDLC(>"0+,-'"M7,/76;"!HHN)") \\ [3.267]$ 

 $\%\&'"56.267:"1'74+,2"3."3\&'"(\&)*)"4'26''"-.,0+030".9"7":+,+:/:".9"OH"0':'03'6"-6'4+30" \\ J';.,4"3\&'":703'6P0"4'26''<+,-1/4+,2"7"-1+,+-71"567-3+-/:<"7,"+,3'6,0&+5<"-7,4+47-;" \\ 'Q7:+,73+.,0<"7,4"7"4+00'6373+.,)"K,"C4)E)":7;",.3"J'"'76,'4"70"5763".9"3&'"(\&)*)"56.-'00)"$ 

 $\begin{array}{c} K_{--} \ '00"3\& '"9.11.\ ?+,2"572\ '".\ ,"3\&'"F*G"*764'\ ,"D.11'2'".9"C4/-73+.\ ,"7\ ,4"(6.9'00+.\ ,71"E3/4+'0"?'J0+3'"7\ ,4"9.11.\ ?"3\&'"+,036/-3+.\ ,0"9.6"-.\ :51'3+,2"3\&'".\ ,51+,\ '"367+,+,2"-./60'U"\\ \underline{\&3350UW?\ ?\ ?\ ).4/)'4/\forall +:57-3\forall 6'05.\ ,0+J1'S-.\ ,4/-3\$.9\$367+,+,2" \end{array}$ 

 $\begin{array}{c} R9"3\&'"-./,0'1+,2"56.267:"-\&7,2'0"3\&'"-/66+-/1/:"?\&+1'"03/4',30"76'"-.:51'3+,2"3\&'"\\ 56.267:<"03/4',30":7;"-\&..0'"3."9.11.?"3\&'+6".6+2+,71"-/66+-/1/:"-.,37+,'4"+,"3&'"&7,4J..@"\\ 7,4"2674/73'"-7371.2"96.:"3&'";'76"?\&',"3&'"03/4',3":736+-/173'4".6"3&'"03/4',3":7;"-&7,2'"3."\\ 9.11.?"3&'"-/66+-/1/:"+,"3&'",'?"&7,4J..@"7,4"2674/73'"-7371.2)"%&'"-/66+-/1/:":7;",.3"J'"-.:J+,'4<"7"-&.+-'".9"&7,4J..@"7,4"-7371.2"+0"6'A/+6'4)"K11"03/4',30"76'"6'A/+6'4"3."9.11.?"\\ 7,;",.,$-/66+-/1/:"5.1+-;"-&7,2'0"+:51':',3'4)" \end{array}$ 

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 $\begin{array}{c} K93'6"(\&)*)"03/4', 30"-.: 51'3'"3\&'"-./60'"+,"-.11'2'"3'7-\&+,2<"3\&';"76'"6'A/+6'4"3."-.S\\ 3'7-\&".,'": 703'6P0"1'8'1"-./60'"?+3&"7"97-/13;": ': J'6"4/6+,2"3&'+6"+,3'6,0&+5)"R,"744+3+.,<"3&';"76'"',-./672'4"3."700+03"9/11S3+: '"97-/13;": ': J'60"+,"3'7-&+,2".3&'6": 703'6P0"1'8'1"-./,0'1+,2"-./60'0"4/6+,2"3&'"3+: '"3&';"76'"-.: 51'3+,2"3&'+6"4'26''0)"Y.03"(\&)*)"03/4',30"?&."&.14"\\ 2674/73'"700+037,30&+50"76'"700+2,'4"3."3'7-&"/,4'62674/73'"&/:7,"0'68+-'0".6"05'-+71"-./60'0)"E3/4',30"-7,"8+0+3"3&'"9.11.?+,2"1+,@"9.6"2','671"+,9.6:73+.,".,"2674/73'"700+037,30&+50"73"F*GU"&3350UW???).4/)'4/\div{97-/13};03799V':51.;''S0'68+-'0V2674/73'S} 700+037,30&+50"73"F*GU"&3350UW???).4/)'4/\div{97-/13};03799V':51.;''S0'68+-'0V2674/73'S} 700+037,30&+50"]"$ 

 $Z \, . \, / \, "76' \, " \, "Q5' \, -3' \, 4"3 \, . \, "7J \, + 4' \, "J \, ; \, "711"5 \, . \, 1+-+' \, 0"+, \, "3\& + 0"\& 7 \, , \, 4J \, . \, . \, @<"+, \, -1/4+, \, 2" \, : \, ' \, '3+, \, 2"73"$   $7556 \, . \, 56 \, + 73' \, "3+ \, : \, '0" \, ? \, + 3\&" \, ; \, . \, /6"748 \, + 0 \, .6\&" \, - \, . \, : \, 51' \, 3+, \, 2"711"9 \, .6 \, : \, 0"+, \, "7"3+ \, : \, '1; \, " \, : \, 7 \, , \, '6<"74\&' \, 6+, \, 2"3 \, . \, "711"$   $56 \, . \, 267 \, : \, "7 \, , \, 4"/ \, , \, + 8' \, 60 \, + 3; \, "5 \, .1+-+' \, 0<"4' \, : \, . \, , \, 03673 \, + \, , \, 2"7556 \, .56 \, + 73' \, "56 \, .9' \, 00+ \, . \, , \, 71"4' \, : \, '7 \, , \, .6" \, ? \, + 3\& \, + \, , \, "-1700' \, 0"$   $7 \, , \, 4"73" \, ; \, . \, /6"9+' \, 14"517-' \, : \, ' \, , \, 3"0 \, + 3' \, 0<"' \, : \, J67-+ \, , \, 2"7"- \, . \, / \, \, , \, 0'1 \, .6" \, + 4' \, , \, 3+3; \, ; \, "/5\& \, .14+ \, , \, 2"' \, 3\& \, + \, -71"7 \, , \, 4"$   $56 \, . \, 9' \, 100+ \, . \, \, , \, 71"037 \, , \, 47640<" \, J'+ \, , \, 2"- \, . \, \, : \, : \, +33' \, 4"3 \, . \, "0-\& \, .1760\& \, + 5"7 \, , \, 4"7-74' \, : \, + -"' \, Q-' \, 11' \, , \, -'<"7 \, , \, 4"74\&' \, 6+ \, , \, 2"3 \, . \, "$   $711"4' \, '741+ \, , \, '0)"$ 

%&+0"&7,4J..@"9.6"(&)\*)"03/4',30"+0"4'0+2,'4"3."0/551':',3"3&'"

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E36'.23&'."..'P0"56.9'00+..71"+4'.3+3:"70"7"567-3+3+..'6<"-./.0'1.6"'4/-73.6<"
FJW'-3+8'"1U"
                7,4"0/5"68+0.6"7,4"J"-.:"@,.?1"42"7J1"".9"-/66",3"+00/"0"+,"3&""9+"14)"
                * '8'1.5"7."+.$4'53&"/.4'6037.4+.2".9"+.4+8+4/71"7.4"26./5"-./.0'1+.2"3&'.6+'0"
FJW'-3+8'"!U"
                7,4"56.-'00'0"7,4"&.?"3&';"76'"7551+'4"?+3&"-1+'.30)"
                G, 4'6037, 4"3\&'"3\&' .6'3+-71"7, 4"-1+,+-71"7551+-73+.,0".9"0/5'68+0+.,"7, 4"J'"
FJW'-3+8'"#U"
                7J1'"3."': 51.;"0/5'68+0.6;"0@+110"?+3&"-./,0'1.60"7,4"-./,0'1.6"367+,''0)"
FJW'-3+8'"$U"
                * '8'1.5"0./,4"5'472.2;"7,4"3'7-&+,2": '3&.40"?&+-&"-7,"J'"7551+'4"+,"
                3'7-&+,2"7,4"56'0',3+,2)"
                 *'8'1.5"@,.?1'42'".9"6'0'76-&"7,4"56.267:"'871/73+.,": '3&.40"3&73"-7,"J'"
FJW'-3+8'"XU"
                7551+'4"73"876+'4"0'33+,20)"
FJW'-3+8'"OU"
                * ':.,03673'"'3&+-71"7,4"-/13/6711;"6'1'87,3"1'74'60&+5"7,4"748.-7-;"
                567-3+-'0)"
FJW'-3+8'"IU"
                * ' : . . 03673 ' "7556 . 56+73 ' "56 . 9 ' 00+ . . 71"4+05 . 0+3+ . . 0"+ , "3& ' "76 ' 70" . 9"
                56.9'00+.,71+0:<"7--./,37J+1+3; \(\nabla\)-.,0-+',3+./0,'00<"0'1986'2/173+.,<"7,4"
                +,3'65'60.,71"0@+110)"
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 $\%\&'''D./,0''l+,2''[674/73'''(6.267:"+,-1/4'0"3\&'"9.11.?+,2"9/1183+:'"97-/13;":':J'60U'' *6)"^+,7"_6.?,<"*6)"^7,'007"*.:+,2/'B<"*6)"^737l+'"C4+6:7,70+,2&'<"*6)"C:+l;"[..4:7,8] E-.33<"*6)"%+:"[6.3&7/0<"*6)"[/107&"a':'6<"*6)"M'996;"Y.'<"*6)"C4"^'/@6/2<"*6)"K:J'6"(.5'<"*6)"K17,"E-&?+3B'6<"7,4"7,4"5763S3+:'"97-/13;":':J'60"?&."-&7,2'"96.:"0':'03'6"3."0':'03'6)"$ 

 $\begin{array}{c} K11"97-/13\,;":::J'60"+,"3\&'"D./,0'1+,2"[\ 674/73'"(6.267:"76'"::':J'60".9"3\&'"\\ *'5763::',3".9"D./,0'1+,2"7,4"\setminus/:7,"E'68+-'0"=D\setminus E>)"%\&'"D./,0'1+,2"[\ 674/73'"(6.267:"+0"7"5763".9"3&73"4'5763::',3"7,4"711"97-/13;"::':J'60"+,"3&'"56.267:"6'5.63"3."3&'"*'5763:',3"D&7+6<"*6)"C4"^'/@6/2)"%&'"[\ 674/73'"D./,0'1+,2"(6.267:"*+6'-3.6"6'05.,0+J1'"9.6"3&'"4.-3.671"56.267:"+0"*6)"[\ /107\&"a':'6)"&'"[\ 674/73'"D./,0'1+,2"(6.267:"*+6'-3.6"6'05.,0+J1'"9.6"3&'"4.-3.671"56.267:"+0"*6)"[\ /107\&"a':'6)"&'"[\ 674/73'"D./,0'1+,2"(6.267:"*+6'-3.6"6'05.,0+J1'"9.6"3&'"5703'6P0"56.267:"+0"*6)"C:+1;"[\ ..4:7,SE-.33)"%&'"4'5763:',3P0".99+-'":7,72'6"+0"*766'117"b+10.,"7,4"3&'"4'5763:',3P0".99+-'":7,72'6"+0"*766'117"b+10.,"7,4"3&'"4'5763:',3P0".99+-'":7,72'6"+0"*766'117"b+10.,"7,4"3&'"4'5763:',3P0".99+-'":7,72'6"+0"*766'117"b+10.,"7,4"3&'"4'5763:',3P0".99+-'":7,72'6"+0"*766'117"b+10.,"7,4"3&'"4'5763:',3P0".99+-'":7,72'6"+0"*766'117"b+10.,"7,4"3&'"4'5763:',3P0".99+-'":7,72'6"+0"*766'117"b+10.,"7,4"3&'"4'5763:',3P0".99+-'":7,72'6"+0"*766'117"b+10.,"7,4"3&'"4'5763:',3P0".99+-'":7,72'6"+0"*766'117"b+10.,"7,4"3&'"4'5763:',3P0".99+-'":7,72'6"+0"*766'117"b+10.,"7,4"3&'"4'5763:',3P0".99+-'":7,72'6"+0"*766'117"b+10.,"7,4"3&'"4'5763:',3P0".99+-'":7,72'6"+0"*766'117"b+10.,"7,4"3&'"4'5763:',3P0".99+-'":7,72'6"+0"*766'117"b+10.,"7,4"3&'"4'5763:',3P0".99+-'":7,72'6"+0"*766'117"b+10.,"7,4"3&'"4'5763:',3P0".99+-'":7,4"3&'"4'5763:',3P0".99+-'":7,4"3&'"4'5763:',3P0".99+-'":7,4"3&'"4'5763:',3P0".99+-'":7,4"3&'"4'5763:',3P0".99+-'":7,4"3&'"4'5763:',3P0".99+-'":7,4"3&'"4'5763:',3P0".99+-'":7,4"3&'"4'5763:',3P0".99+-'":7,4"3&'"4'5763:',3P0".99+-'":7,4"3&'"4'5763:',3P0".99+-'":7,4"3&'"4'5763:',3P0".99+-'":7,4"3&'"4'5763:',3P0".99+-'":7,4"3&'"4'5763:',3P0".99+-'":7,4"3&'"4'5763:',3P0".99+-'":7,4"3&'"4'5763:',3P0".99+-'":7,4"3&'"4'5763:',3P0".99+-'":7,4"3&'"4'5763:',3P0".99+-'":7,4"3&'"4'5763:',3P0".99+-'":7,4"3&'"4'5763:',3P0".99+-'":7,4"3&'"4'5763:',3P0".99+-'"*10.20,4"3*10.10,4"3*10.10,4"3*10.10,4"3*10.10,4"3*10.10,4"3*10.10,4"3*10.10,4"3*10.10,4"3*10.$ 

 $\%\&'"*'5763:',3".9"D./,0'1+,2"7,4" \setminus /:7,"E'68+-'0"+0"7"4'5763:',3"?+3&+,"3&'"*764',"D.11'2'".9"C4/-73+.,"7,4"(6.9'00+.,71"E3/4+'0)"%\&'"*'7,".9"3&'"*764',"D.11'2'".9"C4/-73+.,"7,4"(6.9'00+.,71"E3/4+'0"+0"*6)"%7::+"*+-')"$ 

0"

K11"56.267:0"3&73".99'6"2674/73'"4'26''0"73"F\*G"76'"-..64+,73'4"J;"3&'"F99+-'4'53&"/,48-0.2(99+)0.2(-

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DFG^"e\$0""	K487,-'4"D./,0'1+,2"E/5'68+0+.,""	#"
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DFG^" Y',371"\'713&"D./,0'1+,2" Q" Q" Q"

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DFG^"	Y /13+-/13/671" ( '605 '-3+8 '0"+,"	"	Q"	"
e\$e"	D./,0'1.6"C4/-73+.,<"E/5'68+0+.,<"			
	7,4"L'0'76-&"=.,"^.69.1@"D7:5/0>"			
DFG^"	Y /13+-/13/671" ( '605 '-3+8 '0"+, "		•	
e\$e"	D./,0'1.6"C4/-73+.,<"E/5'68+0+.,<"			

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 $* . -3 .671"03/4', 30"? +11"4'8'1.5"7"?6+33', "517, "9.6"-.:51'3+, 2"3&'+6"4'26''"=+, -1/4+, 2"7" \\ 0-&'4/1'"9.6"6'2+03'6+, 2"9.6"-./60'0"3&6./2&./3"3&'"4'26''"56.267: \times"?+3&"3&'+6"748+0.6"'761; "+, "3&'+6"9+603"0':'03'6)"%&+0"517, "-7, "J'":.4+9+'4"70", ''4'4<"J/3"7, ;"-&7, 2'0"0&./14"J'"6'8+'?'4" \\ 7, 4"7556.8'4"J;"3&'"97-/13;"748+0.6)"$ 

E3/4',30":7;"6'2+03'6"9.6"-./60'0"'7-&"3'6:"?+3&./3"-.,0/13+,2"3&'+6"97-/13;"748+0.6)"

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- \* . -3 .671"03/4' ,30"76'"6' A/+6'4"3 . " . \$3'7 &"7"D \ E" . /60'" ? +3&"7"D \ E"97 /13; " : ' : J '6<" J '9 .6'"3'7 &+ ,2"7" . /60'"0 .1 . "=')2)<"70"3&'"+,036/-3 .6" .9"6' .64>""

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L'S`71+473+.,".9"F/3S.9S" \*73'"[674/73'"D6'4+3"J;" CQ7:+,73+.,"

[#V [674/73'" E3/4+'0" L'A/+6'4".,1;"+9"2674/73'"03/4',30"&78'"

]N"

 $= \frac{138''', 4'', 9''38'''03/4', 3P0''9+603''0' : '03'6'', "38'''(8)*)"56.267 : '38'''03/4', 3"7, 4"748+0.6"}{19.11''037J1+08''38'''03/4', 3P0''56.267 : ".9"03/4; "? &+-&"?+11"+, -1/4'U"7"1+03+, 2".9"711"6'A/+6'4"-./60'0<"7, "+, 4+-73+..,".9"? &+-&"0' : '03'60''38'''03/4', 3"?+11"-.:51'3'''38.0'''-./60'0<"7, 4"7"0-&'4/1'''9.6"-.:51'3+, 2"711".38'6''6'A/+6' : ', 30"9.6''38'''(8)*)"4'26''"+, -1/4+, 2"?6+33', "7, 4".671"-7, 4+47-;"'19.73+.., 0<"38''''4+00'6373+.., "56.5.071<"38'''.671"'07:+, 73+.., ".9"38''"9+, 71"4+00'6373+.., "7, 4"38''''6'A/+6':', 3"3873"38'''4'26'''J''-.:51'3'4"?+38+, "'+283"; '760".9"38''J'2+, +, 2".9"38'''4.-3.671"'4'26'''56.267:".9"03/4; "793'6"J'+, 2"74:+33'4)"%&'"03/4', 3P0"56.267:".9"03/4; "?+11"J'"0+2, '4"7, 4"473'4"J; "38''"748+0.6<"38''"03/4', 38"7, 4"38''"2674/73'"56.267: "4+6'-3.6)"%&'".6+2+, 71"-.5; "?+11"J'"517-'4"+, "38''"03/4', 3P0"748+0+, 2"9.14'6)""56.267: ".9"03/4; "9.6:":/03"J'"-.:51'3'4<"0+2, '4<"7, 4"517-'4"+, "38''"03/4', 3P0"748+0+, 2"9.14'6)""56.267: ".9"03/4', 3P0"748+0+, 2"9.14'6)""56.267: ".9"03/4; "9.6:":/03"J'"-.:51'3'4<"0+2, '4<"7, 4"517-'4"+, "38''"03/4', 3P0"748+0+, 2"9.14'6)""56.267: ".9"03/4', 3P0"748+0+, 2"9.14'6)"$ 

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c73'6"+,"3&'"03/4',3P0"4'26''"56.267: <"3&'"03/4',3P0"748+0.6": 7;".6": 7;".3"J'"-&.0',"J;"
7"4.-3.671"03/4',3"70"3&'+6"4+00'6373+.,"-.::+33''"-&7+6)"%&'"03/4',3P0"748+0.6":/03"J'"7"9/11S3+:'"
97-/13;":':J'6"?&."+0"7":':J'6".9"3&'"D./,0'1+,2"[674/73'"(6.267:"97-/13;"7,4"+0"-'63+9+'4"
9.6"2674/73'"+,036/-3+.,)"

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 $\begin{array}{c} K3"7":+,+:/:<"3\&""03/4", 3P0"748+0.6"", 0/6'0"3\&73"03/4", 30"\&78""4'8'1.5'4"7"6'70., 7J1'"\\ 517,"9.6"-.::51'3+,2"3\&'+6"4'26''"56.267:0)"%\&'"748+0.60"0'68'"70":',3.60"9.6"03/4',30"J;"\\ 700+03+,2"3\&':"+,"9/63&'6"4'8'1.5+,2"3&'+6"+4',3+3;"70"7"56.9'00+.,71"-./,0'1.6"7,4"74.53+,2"\\ 56.9'00+.,71"7556.7-&'0"3."3&'+6"?.6@"7,4"+,3'67-3+.,0"?+3&".3&'60)""%&'"748+0.6("70"?'11"70".3&'6"97-/13;":':J'60<"-7,"710."J'"8'6;"&'159/1"+,"700+03+,2"03/4',30"+,"5/60/+,2"':51.;:',3"70"-./,0'1.6"'4/-73.60".6"1'74'60"+,"3&'"-./,0'1+,2"56.9'00+.,".,-'"3&';"&78'"-.:51'3'4"3&'+6"4'26''"56.267:0)" \end{array}$ 

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 $\%\&'''6'0'76-\&''0@+l10''6'A/+6':',3"+,"3\&'''-./,0'1+,2"(\&)*)"56.267:"+0":'3"J;"03/4',30"-.:51'3+,2"3\&'''6'0'76-\&''-./60'0''6'A/+6'4"+,"3\&'''56.267:".9"03/4;)"b\&',"03/4',30"-.:51'3'" DFG^"e#X"=K487,-'4"D./,0'1+,2"L'0'76-&"*'0+2,"7,4"K00'00:',3>"?+3&"7"2674'".9"_S".6"&+2&'6<"3&';"?+l1"&78'"-.:51'3'4"3&'''6'0'76-&"0@+l10"'Q7:+,73+.,"6'A/+6':',3)"b\&',"3&';"&78'"-.:51'3'4"3&+0"6'A/+6':',3<"03/4',30":$ 

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- N) G5., "&'76+, 2"96.: "3&'"-.:: +33''": ': J'60"? +3&+, "7"?''@<"3&'"748+0.6", .3+9+'0"3&'" 03/4', 3"7, 4".3&'6"-.:: +33''": ': J'60".9"3&'"?6+33', "'Q7:+, 73+., "6'0/130<"7, 4"56.-''40" 3."3&'".671"'Q7:+, 73+.,)""
- ]H) b & ', "3& '"03/4', 3"+0", .3+9+'4"3&73"

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'07:+,73+.,)"

\$) %&'"03/4',3<"3&'"3?."-.::+33''":':J'60<"7,4"3&'"[674/73'"(6.267:"\*+6'-3.6"?+11"J'",.3+9+'4".9"3&'"6'0/130".9"3&'"03/4',3P0"'Q7:+,73+.,"J;"3&'"03/4',3P0"748+0.6",."173'6"3&7,"3&'",'Q3"47;"793'6"3&'".,'S?''@"5'6+.4)"

R9"7"03/4', 3"97+10"3&'"? 6+33', "-7, 4+47-; "'Q7:+,73+.,<"3&'; ":/03"37@'"7, 4"5700"7"0'-.,4"? 6+33', "'Q7:+,73+.,"?+3&+,".,'"; '76)" i 7+1/6'"3."37@'"7"97+1'4"? 6+33', "'Q7:+,73+.,"?+3&+,".,"; '76".6"7"97+1/6'".,"7"0'-.,4"74:+,+03673+.,".9"3&'"? 6+33',"'Q7:+,73+.,"?+11"6'0/13"+,"3&'"03/4',3P0"4+0:+0071"96.:"3&'"4.-3.671"56.267:)"

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%&'".671"-7,4+47-;"'07:+,73+.,".--/60"793'6"0/--'009/1"-.:51'3+.,".9"3&'"?6+33',"

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9.6: "?+11"J'"-.: 51'3'4"J; "3&'"03/4', 3"7, 4"?+11"J'"4'1+8'6'4"3."3&'" [674/73'"(6.267: "\*+6'-3.6)"

 $\begin{array}{c} R9"7"03/4', 3"97+10"3\&'".671"-7, 4+47-; "'Q7:+, 73+.., <"3\&'; ":/03"37@'"7, 4"5700"7"0'-.., 4".671" \\ 'Q7:+, 73+.., "56+.6"3."3\&'"', 4".9"3\&'", 'Q3"0':'03'6)"%\&'"?6+33', "-7, 4+47-; "'Q7:+, 73+.., "4.'0", .3" \\ \&78:"3."J'"6'37@', "+9"+3"?70"5700'4"'761+'6)"i7+1/6'"3."6'37@'"7"97+1'4".671"'Q7:+, 73+.., "J;"3&'"', 4".9"3&'", 'Q3"0':'03'6".6"97+1+, 2"3."5700"3&'".671"'Q7:"., "3&'"0'-.., 4"74:+, +03673+.., "?+11"6'0/13"+, "3&'"03/4', 3P0"4+0:+0071"96.:"3&'"4.-3.671"56.267:)" \end{array}$ 

 $\begin{array}{c} K13\&.\ /2\&"7"(\&)*)"03/4\ ',\ 3P0"4+00\ '6373+.\ ,"-.:\ :+33'\ '"+0"\ ,\ .3"9\ .6:\ '4"\ /\ ,3+1"793\ '6"3\&\ '"03/4\ '\ ,3"\\ \&70"0/--\ '009/11;"-.:\ 51'3'4"3\&'+6"\ ?\ 6+33'\ ,"7\ ,4"\ .671"-7\ ,4+47-;"'\ Q7\ :+\ ,73+.\ ,0<"03/4\ '\ ,30"76'"\\ ',-./672\ '4"3\ ."\ J'2+\ ,"?\ .6@+\ ,2"\ ,"3&'+6"4+00'6373+.\ ,0"73"3&'"\ J'2+\ ,+\ ,2"\ .9"3&'+6"4+00'6373+.\ ,"56.\ W'-3<"\\ \%\&'"0\ .\ ,\ '6"7"(\&)*)"03/4'\ ,3"-\&\ .\ .0'0"7\ ,"76'7"\ .9"-\ ./\ ,0'1+\ ,2"3\ ."03/4\ ;"+\ ,"3&'+6"4+00'6373+.\ ,"56.\ W'-3<"\\ 9\ .6:\ /173'0"7"6'0'76-\&"A/'03+.\ ,<"7\ ,4"4'3'6:+\ ,'0"?\&'3\&'6"3\&'+6"4+00'6373+.\ ,"?+11"\ J'"A/7\ ,3+373+8'"\ .6"\\ A/71+373+8'<"3&'"\ J'33'6"-&7\ ,-"3&'"03/4'\ ,3"?+11"&78'"\ .9"-\ .:\ 51'3+\ ,2"3&'"(\&)*)"4'26''"+\ ,"7"3+:\ '1;"\\ :7\ ,\ '6)"F\ ,-'"4+00'6373+.\ ,"4'-+0+.\ ,0"76'":74'<"03/4'\ ,30"-7\ ,".6+'\ ,3":\ /-\&"\ .9"3&'+6"4\ .-3\ .671"03/4+'0"\\ 3\ .?764"9\ .6:\ /173+\ ,2"7\ ,4"+:56\ .8+\ ,2"3&'+6"4+00'6373+.\ ,"56\ .W'-3)"\\ \end{array}$ 

E3/4',30": 7;"+,9.6: 711;"-.,0/13"?+3&"7,;"97-/13;": ': J'6"6'2764+,2"3&'+6"4+00'6373+.,"
?.6@"56+.6"3."-&..0+,2"7,"748+0.6".6"7"4+00'6373+.,"-.::+33''"-&7+6)"C8',"793'6"03/4',30"&78'"
-&.0',"7,"748+0.6".6"7"4+00'6373+.,"-.::+33''"-&7+6<"3&';":7;"-.,3+,/'"3."+,9.6:711;"-.,0/13"
?+3&".3&'6"97-/13;": ': J'60<"7,4":7;"6'A/'03"-&7,2'0".9"748+0.60<"-.::+33''"-&7+60<".6"
-.::+33''":':':J'60<"+9"7556.56+73')"

 $\begin{array}{c} \mathbf{K}''(\&)*)"03/4', 3P0"4+00'6373+.,":/03"\mathbf{J}'"6'173'4"3."3\&'+6"76'7".9"'Q5'63+0'"?+3&+,"\\ -./,0'1+,2)"\mathbf{K}6'70".9"'Q5'63+0'":7;"+,-1/4'<"\mathbf{J}/3",.3"1+:+3'4"3.<"-./,0'1.6"'4/-73+.,<"\\ 0/5'68+0+.,<"-1+,+-71":',371"&'713&"-./,0'1+,2"1'74'60&+5<"7,4"0-&..1"-./,0'1+,2"1'74'60&+5)"\\ \%\&'"97-/13;":':\mathbf{J}'6"7"03/4',3"0'1'-30"3."-&7+6"3&'+6"4+00'6373+.,"-.::+33''":/03"\mathbf{J}'"\\ @,.?1'42'7\mathbf{J}1'"?+3&+,"3&'"76'7".9"-./,0'1+,2"3&'"03/4',3"517,0"3."03/4;)" \end{array}$ 

 $F, - `"7"03/4", 3"\&70": 74 `"56'1+: +, 76; "4'-+0+., 0"6'2764+, 2"3\&'+6"4+00'6373+., "7, 4"\&70" +4', 3+9+'4"7"97-/13; ": ': J'6"? \&."3&'"03/4', 3"56. J7J1; "?+11"70@"3."-&7+6"3&'"4+00'6373+., "-:: +33''<"3&'"03/4', 3": 7; "J'2+, "3."? .6@"+, 9.6: 711; "?+3&"3&73"97-/13; ": ': J'6)"_.3&"3&'" +4.-3.671"03/4', 3"7, 4"3&'"97-/13; ": ': J'6"?+11"&78'"3&'"/, 4'6037, 4+, 2"3&73"3&'"03/4', 3": 7; "-&7, 2'"3&'+6": +, 4"7J./3"? &.: "3&'; "?+11"0'1'-3"3."-&7+6"3&'+6"4+00'6373+., "/5"/, 3+1"3&'" +00'6373+., "-:: +33''"+0"9.6: '4<"?&+-&".--/60"793'6"3&'"?6+33', "7, 4".671"-7, 4+47-; "'07:+, 73+., 0"&78'"J'', "0/--'009/11; "-:: 51'3'4)"$ 

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 $03/4', 3"+0"', 6.11'4"+, "DFG^"eNN".6"DFG^"eNe"=*+00'6373+..., "E':+,76>)"K93'6"03/4', 30"\&78'"\\ 0/--'009/11;"-..:51'3'4"3&'+6"?6+33', "7,4".671"-7,4+47-;"'Q7:0"7,4"&78'"0/--'009/11;"56.5.0'4"\\ 3&'+6"4+00'6373+...,0<"3&';"76'"74:+33'4"3."-7,4+47-;)"K3"3&+0"5.+,3<"6'2+03'6+,2"9.6".,'"-6'4+3".9"\\ DFG^"eNN"-7,":7@'"3&':"7"9/11S3+:'"03/4',3"T3"F*G)"%&.0'"?&."&.14"2674/73'"700+037,30&+50"\\ :/03"J'"9/11S3+:'"03/4',30)"R,".64'6"3."6'2+03'6"9.6".,'"-6'4+3"7,4"J'"7"9/11S3+:'"03/4',3<"F99+-'".9"[674/73'"E3/4+'0"i.6:"*$":/03"J'"-.:51'3'4"7,4"9+1'4)"E3/4',30"0&./14"J6+,2"3&73"9.6:".-.:51'3'4"3."3&'"-&7+6".9"3&'+6"4+00'6373+.,"-.::+33''"+9"3&';"?+0&"3."37@'".,1;".,'"-6'4+3"7,4"03+11"J'"7"9/11S3+:'"03/4',3)"$ 

K0"0...,"70"5.00+J1'"793'6"3&'"03/4',3"&70"0/--'009/11;"-.:51'3'4"3&'+6"?6+33',"7,4".671"
-7,4+47-;"'Q7:+,73+.,0<"3&'"03/4',3"0&./14"70@"7"97-/13;":':J'6"3."-&7+6"3&'+6"4+00'6373+.,"
-.::+33''"+9"3&';"&78'",.3"716'74;"4.,'"0.)"%&'"03/4',3P0"748+0.6"-./14"J'"70@'4"3."0'68'"+,"3&+0"
6.1'<"J/3"3&'"03/4',3"-./14"70@"7,.3&'6"'1+2+J1'"97-/13;":':J'6"3."-&7+6"3&'+6"4+00'6373+.,"
-.::+33'')"F,-'"7"97-/13;":':J'6"&70"726''4"3."-&7+6"7"03/4',3P0"4+00'6373+.,"-.::+33''<"3&'"
03/4',3"7,4"3&73"

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, .3"711. ? '4"3."0'68'"., "4+00'6373+., "-.::+33''0)"

 $\begin{array}{c} R, 9.6: 73+. \ , "6'2764+, 2"6'A/+6': ', 30".9"+, 4+8+4/710"9.6" \mathbf{J'+}, 2"-'63+9+'4"70" \mathbf{F*G}"2674/73'" \\ 97-/13; ": ': \mathbf{J'60"0\&.}/14" \mathbf{J''6'8+'}?'4"56+.6"3."70@+, 2"7, "+, 4+8+4/71"3."0'68'"., "7"4+00'6373+., "-.:: +33'')"^. ": .6'"3&7, "., 'S3&+64".9"3&'"4+00'6373+., "-.:: +33''": ': \mathbf{J'60"}: 7; "\mathbf{J''''} \ 23''6, 71"3." \\ 3&'"/, +8'60+3;)"R, "3&'"'8', 3"7, "+, 4+8+4/71"726''0"3."0'68'"., "7"4+00'6373+., "-.:: +33''"? &."+0", .3" \\ -/66', 31; "7": ': \mathbf{J'6}".9"3&'" \mathbf{F*G}" [674/73'"i7-/13; <"3&'" [674/73'"(6.267:"*+6'-3.6":/03"6'A/'03" \\ 7556.871".9"3&'"+, 4+8+4/71"70"7" [674/73'"i7-/13;": ': \mathbf{J'6}".9%&'"+, 4+8+4/71":/03"56.8+4'"3&'" \\ [674/73'"(6.267:"*+6'-3.6"?+3&"7"-.5; ".9"3&'+6"8+37'"7, 4"7, ".99+-+71"-.5; ".9"3&'+6"367, 0-6+53"96.:" \\ 3&'"/, +8'60+3; "3&73"7?764'4"3&'+6"3'6:+,71"4'26'')" \end{array}$ 

 $\begin{array}{c} i\ 7-/13;": ': J'60"\&78"'7": /13+3/4'".9"6'05., 0+J+1+3+'0"+, -1/4+, 2"3'7-&+, 2"-./60'0x" \\ -., 4/-3+, 2"3\&'+6".?, "6'0'76-&<"-., 0/13+, 2"./30+4'"3&'"/, +8'60+3;<"5'69.6: +, 2"-.:::/, +3;"0'68+-'<" \\ 7, 4"0'68+, 2"., "/, +8'60+3;"-.:: +33''0)"K0"7"6'0/13<"3&'+6"0-&'4/1'0"76'"8'6; "9/11)"Y''3+, 20"?+3&" \\ 97-/13; "748+0.60"=+, -1/4+, 2"3&'" [ 674/73'" (6.267: "*+6'-3.6<"*.-3.671"E3/4', 3"K48+0.60<"7, 4" \\ *.-3.671"*+00'6373+., "D.:: +33''"D&7+60>"0&./14"J'"0-&'4/1'4"?'11"+, "7487, -')"E3/4', 30": 7; " \\ : 7@'"755.+, 3:', 30"?+3&"3&'+6"97-/13; "748+0.60"J;"-., 37-3+, 2"3&':"J;"': 7+1".6"J;"-711+, 2"3&':"73" \\ 3&'+6"/, +8'60+3;".99+-'0)"R, "3&'"'8', 3"7"97-/13;": ': J'6"+0", .3"787+17J1'"?&', "3&'"03/4', 3"-7110<" \\ 03/4', 30": 7;"1'78'": '0072'0"J;"-711+, 2"3&'"4'5763: ', 3".99+-'"73"IXISOe#S##!0".6"J;"517-+, 2"7" \\ , 3'"+, "3&'"97-/13;": ': J'60": 7+1J.Q"+, "3&'"4'5763: ', 3"96., 3".99+-'"=L..:"!]H]>"1.-73'4"+, "3&'" \\ D\setminus E"E/+3')"R, "3&'"'8', 3"7"97-/13;": ': J'6"+0", .3"6'05., 0+8'"3."6'70., 7J1'"6'A/'030"96.:"03/4', 30" \\ 9.6": ''3+, 20<"03/4', 30"0&./14"-., 0/13"3&'" [ 674/73'" (6.267: "*+6'-3.6"3."4'3'6: +, '"?&'3&'6'7", '?" \\ 748+0.6".6"4+00'6373+., "-.:: +33''"-&7+6"0&./14"J'"0'1'-3'4"7, 4"755. \end{array}$ 

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 \begin{array}{l} 4+00\ '6373+.\ ,"793\ '6"3\&'+6"4+00\ '6373+.\ ,"56.5.071"\&70"J''\ ,"7556.8'4)"E5'-+71"5'6:+00+.\ ,"96.:"3\&'"\\ [674/73'"(6.267:"*+6'-3.6":/03"J'".J37+, '4"3."6'2+03'6"9.6"9'?'6"3&7, "#"-6'4+30".9"4+00'6373+.\ ,"+,"7\ ,;"0':'03'6"+,"?&+-&"4+00'6373+.\ ,"-6'4+30"76'"'76, '4)"*.-3.671"03/4', 3"-7\ ,4+473'0"?&."97+1"3."\\ [6'2+03'6"'7-&"3'6:"?+3&./3"6'A/'03+,2"7\ ,4"6'-'+8+,2"7"1'78'".9"7J0',-'":7;"J'"4+0:+00'4"96.:"\\ [3&'"4.-3.671"56.267:)" \end{array}
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(&)\*)"03/4',30":/03"J'"',6.11'4"+,"73"1'703".,'"-6'4+3"3&'"0':'03'6"+,"?&+-&"3&';" 2674/73')"DFG^"NNN".6"[LK\*"NNN":7;"J'"/0'4"3."9/19+11"3&+0"6'A/+6':',3)"

%&'6'"76'"7", /: J'6".9"03'50"6'173'4"3."-.: 51'3+,2"4+00'6373+.,0)"%&+0"0'-3+.,"./31+,'0"3&'" 56.-'00"03/4',30"?+11"/0'"+,"-.: 51'3+,2"3&'+6"4+00'6373+.,0)"

 $\%\&'"56.05'-3/0"7,4"3\&'"9+,71"4+00'6373+.,":/03"/3+1+B'"K:'6+-7,"(0;-\&.1.2+-71")\\ K00.-+73+.,"=K(K>"03;1'"9.6"9+,71"56.4/-30"=,.3"9.6"0/J:+00+.,"3."6'9'6''4"\left\( /6,710"9.6"6'8+'?> )"\\ \%\&'"03;1'".9"?6+3+,2"7,4"3&'"6'9'6',-'0"76'"3."-.,9.6:"3."K(K"03;1')"E5'-+9+-"2/+4'1+,'0"\\ 6'2764+,2"3\&'"9.6:73"7,4"03;1'".9"3&'"4+00'6373+.,"76'"56.8+4'4"173'6"+,"3&+0"0'-3+.,)"$ 

%&'''56.05'-3/0"9.6"3&'''4+00'6373+.,"+,"3&'''D./,0'1+,2"[674/73'"(6.267:"+0"3&'"9+603"3&6'''"-8753'60".9"3&'"4+00'6373+.,)"%&'"+,9.6:73+.,"6'2764+,2"3&'"56.5.0'4"03/4;"+0"?6+33',"+,"9/3/6'"-3',0'"7,4"3&'"1+3'673/6'"6'8+'?"-8753'6"+0"?6+33',"+,"5703"3',0'"=3."-.,9.6:"3."K(K"03;1'>)"i.6"3&'"-9+,71"4+00'6373+.,<"793'6"3&'"4+00'6373+.,"03/4;"&70"J'',"-.:51'3'4<"3&'"9/3/6'"3',0'"/0'4"+,"-8753'6"3&6''"?+11"J''-87,2'4"3."5703"3',0')"

\*/6+,2"3&'"3'6: "03/4',30"76'"',6.11'4"+,"DFG^"eN,.2(5)-0.(.2457589.9143"J;"5')./4'6373+)"0'.2457(,7)

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4+00'6373+.,"03/4+'0<"5763+-/1761;"0/68';"03/4+'0<"+3"+0"5.00+J1'"7"03/4;":7;"J'"'Q':53"96.:"6'8+'?)"

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F99+-'".9" [ 674/73'"E3/4+'0"J; "3&'"1703"47; ".9"-1700'0<"03/4', 30"?+11", .3"2674/73'"3&73"0': '03'6<"7,4"?+11"&78'"3."?7+3"/,3+1"3&'"',4".9"3&'",'Q3"0': '03'6)"K,; "'Q-'53+.,0"3."3&+0"5.1+-;":/03"J'" 6'A/'03'4"96.: "3&'"L'2+03676P0"F99+-'"J; "3&'"-&7+6".9"3&'"03/4', 3P0"4.-3.671"-.::+33'')"

F, - '''3&''''4+00'6373+., -''-.:: +33''''-&7+6"+0"073+09+'4"? +3&"3&'"03/4', 3P0"46793".9"3&''' -.:: 51'3'4"4+00'6373+., <"3&'''-&7+6"? +11"0-&'4/1'''3&'''4+00'6373+., "4'9', 0''': ''3+, 2)"%&'''-&7+6"? +11"'', 0/6'''3&'''.3&'6"97-/13;": ': J'60"76'''787+17J1'''9.6"3&''': ''3+, 2"7, 4"? +11"0'-/6'''73+: ''"7, 4"517-''" 9.6"3&''': ''3+, 2"3."J''&'14)"%&'''4+00'6373+., "-.:: +33''''-&7+6"? +11"517-'"7, "7,,../,-':: ', 3"+, "3&'''/+8'60+3;"?+4'''7,,../,-':: ', 30"+, 8+3+, 2"3&'''/, +8'60+3;"-.:: /, +3;"3."733', 4"7, 4"? +11"+, 8+3''' 4'5763: ', 3"9/1183+: '"7, 4"5763S3+: '"97-/13;": ': J'60"7, 4"711"-/66', 3"-./, 0'1+, 2"4.-3.671" 03/4', 30"8+7"'S: 7+1"3."3&'"56.5.071": ''3+, 2)"%&'"7,,../,-':: ', 3"? +11"+, -1/4'"3&'"4+00'6373+., "3+31'<"7"3&6''".6"9./6"0', 3', -'"0/:: 76;".9"3&'"03/4;"=7J0367-3>"7, 4"3&'"473'<"3+: '<"7, 4"1.-73+., "9"3&'"56.5.071": ''3+, 2<"7, 4"3&'", 7: '0".9"3&'"4+00'6373+., "-.:: +33''": ': 'J'60"=?+3&"3&'": ': 'J'60"=?+3&"3&'": ': '3&.4.1.2+03"+4', 3+9+'4>)"

%&'"03/4',3"?+11"56.8+4'"3&'"-.::+33''":':':J'60<"3&6./2&"7,"'S:7+1"?+3&"7,"
7337-&:',3<"7"-.:51'3'"46793".9"3&'"4+00'6373+.,"7":+,+:/:".9"3?."?''@0"56+.6"3."3&'"0-&'4/1'4"
4+00'6373+.,"4'9',0')"R9"711"-.::+33''":':J'60"+,9.6:"3&'"4+00'6373+.,"-.::+33''"-&7+6"3&73"

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'8',3"+0"-.,3+,/'4"/,3+1"7"173'6"473'"?&',"7",'?".6"6'8+0'4"4.-/:',3"&70"J'',"56'576'4"J;"3&'" 03/4',3"7,4"6'8+'?'4"J;"3&'"-.::+33'')"R,"3&'"'8',3"7"4+00'6373+.,"4'9',0'"+0"97+1'4<"J;"F99+-'".9"

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: ',371"&'713&"-./,0'1+,2<"3&';":/03":''3"3&'"4'26''"6'A/+6':',30"9.6"J.3&"DKDLC("7--6'4+3'4"-.,-',3673+.,0)"%&+0"?./14"+,-1/4'":''3+,2"3&'"-/66+-/176"6'A/+6':',30"9.6"'7-&"-.,-',3673+.,"
7,4"7":+,+:/:".9"7"OHHS-1.-@"&./6"+,3'6,0&+5"9.6"-.,-',3673+.,<"9.6"7"3.371".9"]!HH"&./60"
.9"+,3'6,0&+5)"%&'"7?764+,2".9"3&'"4'26''=0>":/03".--/6"0+:/137,'./01;)"

 $\begin{array}{c} D.\ /\ ,0'1+\ ,2"2674\ /73'"03\ /4'\ ,30"76'"'\ ,-..\ /672'4"J\ ;"3\&'"97-/13\ ;"3."0''@"5'60.\ ,71"-..\ /\ ,0'1+\ ,2"\\ 0'68+-'0"4\ /6+\ ,2"3\&'"3+: '"3\&';"76'"'\ ,6.11'4"+\ ,"3\&'"-..\ /\ ,0'1.6"56'57673+.\ ,"56.267:\ )"R\ ,"@''5+\ ,2"\\ ?+3\&"3\&'"5\&+1.0.5\&;".9"-..\ /\ ,0'1+\ ,2"3&73"-..\ /\ ,0'1+\ ,2"0'68+-'0"-7\ ,"J''&'159\ /1"3."711"5'60.\ ,0<",\ .3"\\ \mathbb{W}/03"+\ ,4+8+4\ /710"?\&."&78'"': .3+.\ ,71".6": '\ ,371"4+0.64'60<"J\ /37710."9.6"+\ ,4+8+4\ /710"?\&."76'"'\\ 9/\ ,-3+.\ ,+\ ,2"'99'-3+8'1;"70"?'11<"2674\ /73'"03\ /4'\ ,30"76'"'\ ,-..\ /672'4"3."1'76\ ,"7J.\ /3"3&': 0'18'0"\\ 96.\ :"J'+\ ,2"7"-1+'\ ,3"+\ ,"7"-.\ /\ ,0'1+\ ,2"6'173+.\ ,0&+5)"R\ ,"744+3+.\ ,"3."0'19S'Q51.673+.\ ,<"J'+\ ,2"7"-1+'\ ,3"\\ 56.\ 8+4'0"-.\ /\ ,0'1+\ ,2"03\ /4'\ ,30"'?*3&"3."'Q5'6+'\ ,-'"?&73"3&';"70@"3&'+6"-1+'\ ,30"3."\\ 4.\ <"?&+-&"&'150"-.\ /\ ,0'1+\ ,2"03\ /4'\ ,30"':573&+B'": .6'"9\ /11;"?+3&"-1+'\ ,30"?&&."0''@"-.\ /\ ,0'1+\ ,2"\\ 0'68+-'0)" \end{array}$ 

 $\begin{array}{c} K13\&./2\&"-./,0'1+,2"2674/73'"03/4',30":7;"',272'"+,"-.,8'6073+.,0"?+3\&"-./,0'1+,2"\\ 97-/13;":':\mathbf{J}'60"6'2764+,2"5'60.,71":733'60"+,"3\&'"-./60'".9"3\&'+6"03/4+'0<"+3"+0"+,7556.56+73'"\\ 9.6"-./,0'1+,2"97-/13;":':\mathbf{J}'60"3."\mathbf{J}'-.::"7"-./,0'1.6"9.6"7"-./,0'1+,2"2674/73'"03/4',3)"\\ \mathbf{i}7-/13;":':\mathbf{J}'60"7,4"-./,0'1+,2"2674/73'"03/4',30"0\&./14":7+,37+,"3&'+6"6.1'0"70"56.9'00.6"\\ 7,4"03/4',3"73"711"3+:'0"7,4"76'",3"'3&+-711;"711.?'4"3."',272'"+,"-./,0'1+,2".6"5'60.,71"\\ 6'173+.,0&+50)" \end{array}$ 

 $F*G"2674/73"03/4",30"76"",3+31"4"3."96""+,4+8+4/71"-./,0'1+,2"0'00+.,0"3\&6./2\&"\\F*G"D./,0'1+,2"E'68+-'0)"D./,0'1+,2"03/4",30"?\&."0''@"0'68+-'0"+,"3&'"-',3'6"0\&./14"\\+4',3+9;"3\&':0'18'0"70"-./,0'1+,2"2674/73'"03/4',30"0."3&';"?+11"J'"700+2,'4"3.":',371"&'713&"56.9'00+.,710"?\&."76",.3"03/4',30"3&':0'18'0"+,"3&'"F*G"D./,0'1+,2"[674/73'"(6.267:0)"(6+87-;".9"-./,0'1+,2"2674/73'"03/4',30"+0"+,0/6'4"J;"F*G"D./,0'1+,2"E'68+-'0"03799":':J'60)"K1.,2"?+3&"+,4+8+4/71"5'60.,71"-./,0'1+,2"F*GP0"D./,0'1+,2"E'68+-'0".99+-'"56.8+4'0"50;-&.'4/-73+.,71"26./50".,"3.5+-0".9"+,3'6'03"3."2674/73'"03/4',30"7,4"':'62',-;":',371"&'713&"0'68+-'0)"$ 

 $\begin{array}{c} R\,, "744 + 3 + .\,, "3\,." - .\,/\,\,\,, 0\,'\,1 + \,, 2\,"0\,'\,68 + -\,\,'\,0"\,56\,.\,\,8 + 4\,'\,4\,"3\,.\,"03/4\,'\,\,\,, 30"\,.\,\,, "3\&\,'\,"\,F\,*\,G"\,-7\,:\,\,5/0<"\\ -\,.\,/\,\,\,, 0\,'\,1 + \,, 2\,"2674\,/\,73\,'\,"03/4\,'\,\,\,, 30"\,:\,\,7\,;\,"0\,'\,'\,@"\,-\,.\,/\,\,\,, 0\,'\,1 + \,, 2\,"3\&6\,.\,/\,2\&\,"56 + 873\,'\,"567\,-3 + 3 + .\,\,,\,'\,60"\,+\,\,, "3\&\,'\,"\\ -\,.\,:\,:\,/\,\,, +3\,;\,)"E3/4\,'\,\,\,, 30"\,?\,\&\,.\,"0\,'\,'\,@"\,-\,.\,/\,\,\,, 0\,'\,1 + \,, 2\," + \,, "3\&\,'\,"\,-\,.\,:\,:\,/\,\,, +3\,;\,"\,:\,\,7\,;\,"\,J\,'\,'\,'\,'\,1 + 2 + J\,1\,'\,"\,9\,.\,6\,"3\&\,+64\,"\,5\,763\,;\,"\\ 6\,'\,+\,:\,J\,/\,60\,'\,:\,'\,, 3\,"\,9\,.\,6\,"\,-\,.\,/\,\,\,, 0\,'\,1 + \,, 2\,"0\,'\,68 + -\,'\,0\,"\,+9\,"3\&\,'\,;\,"\&\,78\,'\,"\,7\,"\,5\,'\,60\,.\,\,\,, 7\,1\,"\&\,'\,7\,13\&\,"\,+\,\,, 0/67\,,\,-\,'\,"\,5\,17\,,\,"3\&\,73\,"\\ 6\,'\,+\,:\,J\,/\,60\,'\,0\,"\,9\,.\,6\,"\,0\,/\,-\&\,"\,0\,'\,68 + -\,'\,0\,"\,E3/4\,'\,\,, 30\,"\,?\,\&\,.\,"\,0\,'\,'\,@\,"\,5\,6 + 8\,73\,'\,"\,-\,.\,/\,\,, 0\,'\,1 + \,, 2\,"\,0\,'\,68 + -\,'\,0\,"\,+\,, "3\&\,'\,"\,-\,.\,:\,:\,/\,\,, +3\,;\,"\\ 7\,6\,'\,'\,'\,'\,,\,-\,.\,/\,67\,2\,'\,4\,"\,3\,.\,"\,/\,3 + 1 + B\,'\,"\,3\&\,'\,"\,0\,'\,6\,8 + -\,'\,0\,"\,.\,9\,"\,c\,+\,-\,'\,, 0\,'\,4\,"\,(\,6\,.\,9\,'\,00 + \,.\,, 7\,1\,"\,D\,.\,/\,\,, 0\,'\,1\,.\,60\,"\,=\,c\,(\,D0\,))" \end{array}$ 

R, "3&'"'8', 3"7"03/4', 3"J'1+'8'0"3&73"7"9+, 71"2674'"9.6"7"-./60'"+0"/, 97+6<"3&'"56.-'4/6'"9.6" 755'71+, 2"7"2674'"3&73"+0"0'3"9.63&"+, "3&'"F\*G" [674/73'"D7371.2":/03"J'"9.11.?'4)"F, 1; "9+, 71" 2674'0"+, "-./60'0":7;"J'"755'71'4)"

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#) %&'"(6.267: "\*+6'-3.6<".6"4'0+2,''<"?+11"0''@"+,5/3"5'637+,+,2"3."3&'"0+3/73+.,"96.: "3&'" 03/4',3"7,4":7; "&.14"7": ''3+,2"?+3&"3&'"03/4',3"7,4"97-/13;": ': J'6"3."733': 53"3."6'0.18'"

#e"

] H) %&'"\*'5763:',3"D&7+6"?+11"6'A/'03"755.+,3:',3".9"3&'"K55'710"D.::+33''"96.:"3&'"\*'7,P0".99+-')"%&'"D&7+6".6"4'0+2,''"700.-+73'4"?+3&"3&'"03/4',3"7,4"3&'"03/4',3"?+11"&78'"3&'"6+2&3"3."-&711',2'<"9.6"871+4"-7/0'<"7,;".6"711".9"3&'":':J'60".9"3&'"-.::+33''"7,4<"+,"3&73"'8',3<"6'517-':',30"?+11"J'"755.+,3'4<"7,4",."9/63&'6"-&711',2'"?+11"J'"5'6:+33'4)"%&'"-.::+33''"?+11"J'"70@'4"3."4'-+4'"?&'3&'6"4/+6'"3&'"03/4',3"3."37@'"3&'"6'-.::',473+.,0".9"3&'"\*\*'5763:',3"D&7+6)"%&'"-.::+33''"?+11"+,3'68+'?"3&'"D&7+6<"3&'"(6.267:"\*+6'-3.6".6"4'0+2,''<"3&'"97-/13;":':J'6".6"97-/13;":':J'60"?&."+,+3+73'4"3&'"-.,-'6,"7J./3"3&'"03/4',3<"3&'"03/4',3<"3&'"03/4',3<"3&'"03/4',3<"3&'"33."3&'"\*'5763:',3"D&7+6<"\*\*'5763:',3"3\*\*'5763:',3"3\*\*'5763:',3"D&7+6<"\*\*'5763:',3"D&7+6<"\*\*'73."3&'"\*'5763:',3"D&7+6<"\*\*'73."3&'"\*'5763:',3"D&7+6<"\*\*'73."3&'"\*'5763:',3"D&7+6<"\*\*'73."3&'"\*'5763:',3"D&7+6<"\*\*'73."3&'"\*'5763:',3"D&7+6<"\*\*'73."3&'"\*'5763:',3"D&7+6<"\*\*'73."3&'"\*'5763:',3"D&7+6<"\*\*'73."3&'"\*'5763:',3"D&7+6<"\*\*'73."3&'"\*'5763:',3"D&7+6<"\*\*'73."3&'"\*'5763:',3"D&7+6<"\*\*'73."3&'"\*'5763:',3"D&7+6<"\*\*'73."3&'"\*'5763:',3"D&7+6<"\*\*'73."3&'"\*'5763:',3"D&7+6<"\*\*'73."3&'"\*'5763:',3"D&7+6<"\*\*'73."3&'"\*'5763:',3"D&7+6<"\*\*'73."3&'"\*'5763:',3"D&7+6<"\*\*'73."3&'"\*'5763:',3"D&7+6<"\*\*'73."3&'"\*'5763:',3"D&7+6<"\*\*'73."3&'"\*'5763:',3"D&7+6<"\*\*'73."3&'"\*'5763:',3"D&7+6<"\*\*'73."3&'"\*'5763:',3"D&7+6<"\*\*'73."3&'"\*'5763:',3"D&7+6<"\*\*'73."3&'"\*'5763:',3"D&7+6<"\*\*'73."3&'"\*'5763:',3"D&7+6<"\*\*'73."3&'"\*'5763:',3"D&7+6<"\*\*'73."3&'"\*'73."3&'"\*'73."

#N"

- E1''5+,2"+,"-1700V.3&'6"+,7556.56+73'"3+: '0"
- i6'A/',3"+,3.Q+-73+.,"

## C: .3+., 71"E+2, 0"

- R,7556.56+73'"': .3+.,71"./3J/6030"
- \*+6'-3"0373':',30"+,4+-73+,2"4+036'00"
- C056'00+..0".9"&.5'1'00,'00".6"0/+-+4'"
- \_ '&78+.6"3&73"467?0"5''6"-.,-'6,"
- CQ722'673'4"5'60.,71+3; "367+30"=: .6'"?+3&467?, ".6"7,+:73'4"3&7, "/0/71>"

## K-74':+-"E+2,0"

- \* '3'6+.673+.,"+,"7-74':+-"?.6@"
- \*+0.627.+B'4".6"'6673+-"5'69.6:7.-'"
- L'5'73'4"7J0', -'0"7, 4": +00'4"700+2, :', 30"
- L7,3+,2".6"3&6'73',+,2"':7+10"
- D., 3+, /71"0''@+, 2".9"05'-+71"'Q-'53+., <math>0"

E3/4',30"7,4"97-/13;"-7,": 7@'"7"6'9'6671"&'6'U"

 $\begin{array}{l} \%\&' "9.11.?+,2"+,9.6:73+.,"+0"37@',"4+6'-31;"96.:"3\&'"9.11.?+,2"?'J0+3'U""\\ \&3350UVV-:):7Q+',3)-.:V6'5.63+,29.6:)5\&5sF14*.:+,+.,G,+8h17;./3f+4r!!> \end{array}$ 

F14"\*.:+,+.,"G,+8'60+3;"37@'0"56+4'"+,"3&'"4+8'60+3;".9"./6"03/4',30\"97-/13;"7,4"03799)"R3"+0"
'8'6;.,'P0"6'05.,0+J+l+3;"3."',0/6'"F\*G"-.,3+,/'0"3."J'"7"-.::/,+3;"?&'6'"./6"4+99'6',-'0"76'"
-'1'J673'4)"R9";./"&78'"?+3,'00'4".6"&78'"J'',"0/J\"'-3'4"3."7"J+70"7-3".6"-6+:'"51'70'"6'5.63"+3"
=0''"3&'"?'J0+3'"7J.8'>)"%&'"\*'7,".9"E3/4',30"F99+-'"?+11"9.11.?"/5".,"711"6'5.63'4"+,-+4',30"7,4"
37@'"3&'"7556.56+73'"7-3+.,)"

\$H"

K13&./2&"3&""G,+8'60+3;"7,4"+30"D.11'2'0"&78'"7"876+'3;".9"56.-'4/6'0"9.6"4'71+,2"?+3&"03/4',38

! \$]"

7,4"D&7+6"

! \$!"

 $\begin{array}{c} E_3/4', 30"+, "3\&"D./, 0'1+, 2" \left[ 674/73"' \left( 6.267:"73"F*G"\&78""3\&""676'".55.63/, +3;"3."03/4;"7J6.74"4/6+, 2"3&'+6"4'26''"56.267:0"7, 4"'76, "7-74':+-"-6'4+30"3&73"-./, 3"3.?764"3&'+6"4'26''0)""" \\ \%\&"+, 03+3/3'0".99'6'4"J;"3\&"D./, 0'1+, 2" \left[ 674/73'" \left( 6.267:"73"F*G"+, -1/4'"6+-&":/13+-/13/671" \right) \right] \\ "Q5'6+', -'0"+, "9.6'+2, "-./, 36+'0)"R, 03+3/3'0"76'"1'4"J;"F*G"-./, 0'1+, 2"97-/13;)"%\&'"-.03".9"3&'0'" \\ +, 03+3/3'0"-7, "J'"-.:5/3'4"+, "03/4', 30P"'Q5', 0'0"3.?764"6'-'+8+, 2"03/4', 3"1.7, 0)"F*G"2674/73'" \\ 700+037, 30"?\&."&78'"3&'+6"3/+3+., "57+4"J;"3&'"/, +8'60+3;"-7, "6'4/-'"3&'"-.03".9"3&'"+, 03+3/3'"J;"3&'"/ \\ 7:./, 3".9"3/+3+., "9.6"7"#S-6'4+3"-./60')"Y.03"56.9'00.60"7--.::.473'"03/4', 30P"7J0', -'0"4/6+, 2" \end{array}$ 

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E3/4',3P0"^7: 'U""""
%&'"03/4',3P0"748+0.6P0"^7: 'U""""
                                 _____" =Y /03"J'"-.:51'3'4"J;"K56+1"]"'7-&";'76)>"
* 73'".9"R, 3'68+'?U""
        \78'"; . /"5'69.6: '4"74'A/73'1;"+,"-./60'0"; . /"-.:51'3'4"4/6+,2"3&'"5703"; '76s"
R9'', <''56.8+4''+,9.6:73+.,"7,4"517,0"9.6"6': '4+73+.,"J'1.?)"
        R9"; . /"&78'"7, "700+037, 30&+5<"&78'"; . /"5'69.6: '4"74'A/73'1; "4/6+, 2"3&'"5703"; '76s"
* '0-6+J'"7,; ".671".6"?6+33', "'871/73+.,0";./"&78'"6'-'+8'4"3&+0"5703";'76)"R9"56.J1':0"&78'"
'Q+03'4"3\&+0"5703"; '76<"56.8+4'"+,9.6:73+.,"7,4"517,0"9.6"6':'4+73+.,"J'1.?)"
        * . '0"3&'"0+2, '4"56.267: ".9"03/4;"+,"; . /6"748+0+,2"9.14'6", ''4"3."J'": . 4+9+'4"+,"7,;"
?7;s"R9"; '0<"-.:51'3'"7", '?"(&)*)"(6.267:".9"E3/4;"i.6:<".J37+, "0+2,73/6'0<"7,4"2+8'"3&'"
.6+2+,71"3."3&'" [ 674/73'" ( 6.267: "*+6'-3.6"3."J'"517-'4"+,"; ./6"748+0+,2"9.14'6)"
        K6'"; . /"+, 8.18'4"+, "7,; "56.\"'-30"6'173'4"3.\"; . /6\"4.-3.671\"4'26''\"56.267: <\"J/3\"76'\", .3\"7\"
5763".9"7"-./60'".6"700+037,30&+5"700+2,:',30s"R9";'0<"4'0-6+J'"J'1.?)"R9"744+3+.,71"56.\\'-30"76'\"
0/22'03'4".6"-&7,2'0"+,"56.\|\'-3\"7-3\+8\+3\'0\"&78'\"J\'\,\"0/22'03'4\"3.\\\;\.\<\\'4\'0-6\+J\'\"3\&\'0\\"
0/22'03+...0"J'1.?"
        \\78'";./"56'0',3'4"56.267:0"73"7; "56.9'00+.,71"-.,9'6',-'0"+,"3&'"5703"; '76s"
*.";./"&78'"7,;"-.,9'6',-'"56.267:"56.5.0710"5',4+,2s""R9";'0<"4'0-6+J'"J'1.?)"
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_'1.?"76'"5&.3.0"7,4"J7-@26./,4"0/::76+'0".9"3&'"9/1183+:'"97-/13;":':J'60"+,"3&'"
D./,0'1+,2"[674/73'"(6.267:)"C7-&"97-/13;":':J'6"710."&70"7"?'J"572')"
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 $*6) "C: +1; "[ ...4:7, SE-.33" +0"7, "K00.-+73" (6.9'00.6".9"D./,0'1+,2"73" F*G<"[674/73" (6.267:"*+6'-3.6".9"3&'":703'6P0" h*C4E"56.267: <"7,4"3&'"E-&..1"D./,0'1+,2"D..64+,73.6)" \ '6"56+:76; "6'0'76-&"+,3'6'03"+0"+,"0-&..1"-./,0'1+,2"+,-1/4+,2":/13+S3+'6'4"0;03':0".9"0/55.63k"56'57673+.,<"7,4"567-3+-'k"-./,0'1+,2"-&+146',"?+3&"05'-+71",''40k"7,4"56'8',3+.,)"E&'"'76,'4"J.3&"7"(&)*)"$ 

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\*6)"C4"^'/@6/2"+0"7"(6.9'00.6".9"D./,0'1+,2)"\+0":7W.6"0-&.1760&+5"76'70"+,-1/4'"56.9'00+.,71" +00/'0"+,"-./,0'1+,2<"'3&+-0<"3'03+,2"7,4"700'00:',3<"-./,0'1+,2"3&'.6+'0"7,4"0@+110<"7,4"97:+1;"-./,0'1+,2)"\'"&70"?6+33',"]]"J..@0"7,4"4.B',0".9"763+-1'0)"\*6)"^'/@6/2"6'-'+8'4"&+0"C4)\*)"
96.:"3&'"G,+8'60+3;".9"D+,-+,,73+)"\'"+0"7"\_.764"D'63+9+'4"\/:7,"E'68+-'"(6.9'00+.,71"=\_DSS\\E(\times"^73+.,71"D'63+9+'4"D./,0'1.6"=^DD\times"^\*C+-',0'4"(6.9'00+.,71"D./,0'1.6"=c(D\times"^7,4"7"c+-',0'4"(6.9'00+.,71"D./,0'1.6"=c(D\times"^7,4"7")c+-',0'4"(6.9'00+.,71"D./,0'1.6"=c(D\times"^7,4"7")c+-',0'4"(6.9'00+.,71"D./,0'1.6"=c(D\times"^7,4"7")c+-',0'4"(6.9'00+.,71"D./,0'1.6"=c(D\times"^7,4"7")c+-',0'4"(6.9'00+.,71"D./,0'1.6"=c(D\times"^7,4"7")c+-',0'4"(6.9'00+.,71"D./,0'1.6"=c(D\times"^7,4"7")c+-',0'4"(6.9'00+.,71"D./,0'1.6"=c(D\times"^7,4"00")c+-',0'4"(6.9'00+.,71")c+-',0'4"(6.9'00+.,71")c+-',0'4"(6.9'00+.,71")c+-',0'4"(6.9'00+.,71")c+-',0'4"(6.9'00+.,71")c+-',0'4"(6.9'00+.,71")c+-',0'4"(6.9'00+.,71")c+-',0'4"(6.9'00+.,71")c+-',0'4"(6.9'00+.,71")c+-

\*6)"K: J'6"c)" ( .5'"+0"3&'"c'-3/6'6".9" [ 674/73'"Dl+,+-71"D . . 64+, 73 . 6"+, "3&'"D . / ,0'1+,2" h" \ /: 7, " E'68+-'0" ( 6 . 267: "73"F\*G)"\*6)" ( .5'"6'-'+8'4" (&)\*)"+, "D . / ,0'1 . 6"C4/-73+ . ,"7 ,4"&'6"Y)E)"+, " D .: : / ,+3; "D . / ,0'1+,2"96 .: "3&'"G ,+8'60+3;" .9" ^ .63&"D76 .1+ ,7"73" [ 6'' ,0J .6 .)"E&'"+0"7"c+-' ,0'4" (6 . 9'00+ . ,71"D . / ,0'1 . 6"=c (D \times"7 ,4"&70"? .6@'4"+,": /13+51'"- .: : / ,+3;"J70'4"0'33+,20\times": .03" 6'-' ,31;"+,"56+873'"567-3+-')"\*6)" ( .5'"05'-+71+B'0"+,"3&'"76'70".9"- ./51'0"- ./ ,0'1+,2\times"0'(0/71+3;" - .,-'6,0\times"2',4'6"7,4"0'Q/71+3;"4'8'1.5: ' ,3\times"7 ,4"c [ \_% j \$6'173'4"- ./ ,0'1+,2)"\*6)" ( .5'P0" ? 'J572'"-7,"J'"8+'?'4"73"

<u>&3350UVV ? ? ?).4/)'4/V4+6'-3.6;V5'.51'V7V71]5.5'""</u>

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\*6)"K17, "= b . . 4;>"E-&?+3B'6"+0"7" (6.9'00.6".9"D./,0'1+,2)" \ +0": 7\! . 6"0-&.1760&+5"76'70".9"+,3'6'03" 7,4"05'-+713+'0"+,-1/4'"/,+8'60+3;"7,4"-.11'2'"03/4',3"74\!/03: ',3\!/4'8'1.5: ',3\!/1'76,+,2\!/7,4" -./,0'1+,2\!/70"? '11"70"4+72,.0+0\!/"-.,-'53/71+B73+.,\!/7,4"36'73: ',3"517,,+,2)"\*6)"E-&?+3B'6" 6'-'+8'4"&+0"(&)\*)"+,"D./,0'1+,2\!/"(0;-&.1.2;"96.:" `+62+,+7"D.::.,?'713&"G,+8'60+3;)" \ '4\!"(3)0.2(;)" \ )-0.2

\$N"

	! ! D?-\$'!ACGE!	%&3#,:!35&(&'#2#*-'!(.*++(:!&'/2/&6&'#:!#*6&! 62'2/&6&'#:!2'%!6-5&8!! ! ?+2((@!?-\$'!ABC!
"#\$%&'#(!)*++! %&7&+-3! 2335-35*2#&!	?\$#\$"(2<\\5('3'\#"\+1!\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	@-##\$(,",-'.\\?\\$#\\$"(2<\\5('3'#"\\-1\!\ K'(\#5\\$1\#\-5\!\#\\\2335\-7\&\!2'\!\*\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
5&(&251,! P\$&(#*-'(!0-5!	6*; &%! 6 &#, -%!2335-21, !#-!2!(#\$%98!! ?-'#&'#(@!>*#+&!32/&:!+*#&52#\$5&!5&7*&):!</td><td>! ?+2((@!?-\$'!AJA!</td></tr><tr><td>35-0&((*- '2+! 5&(&251, !2 '%! 3\$=+*12#*- '8!</td><td>6 &# , -%:!+* 6 *#2#* - '(:!5&0&5& '1&!32/&8!! ! ! 2+2((0) 2 - \$ '!AXH!</td><td></td></tr></tbody></table>	

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