```
! "#$%&'(&"')(##"#*'
                                    !
                                             "#$$%&#'#(!)%*+,!
                                 +, -.../, '0123,452.67' (18/259' : , ; -4. < , 1.'
                                     =>?'?@.9'"3,A7'+,-../,7'B"'=C?@@'
                                           DEE2F.G'H@>IJK@=IKLM@@'
                                         (<-2/G'FE,44-42N5,-../,OA,PO'
Q#D) (++*D&" $'" QQD*&R S (&R+'
"5525.-1.'; 4TE,55T47':,; -4.<,1.'TE'(18/2597'+,-../,'0123,452.67'+,; .A'@>@>'U'Q4,5,1.''
"5525.-1.';4TE,55T47':,;-4.<,1.'TE'(18/2597' "P,/;92'0123,452.67' "084'@>?C'U' "084'@>@>'
(:0!"R*D&'
@>?CG'' Q9A: A'21' "E4TK " < ,42F-1'+.OP2,57' O 123,452.6'TE' S -55-F9O5,...5' " < 9,45.'''
@>?V6'' W4-P0-., 'F,4.2E2F-., '21' "P3-1F,P'), <2125.'+.0P2,57' 0 123,452.6'TE'S -55-F905,...5' " < 9,45.'
@>?IG'' W4-PO-.,'F,4.2E2F-.,'21' "E42F-1': 2-5;T4-'+.OP2,57' O 123,452.6'TE'S -55-F905,..5' " < 9,45.'
@>?IG' SA"A'21' "E4TK" < ,42F-1'+.OP2,57' O 123,452.6'TE' S -55-F905,...5' " < 9,45.''
@>>=6'' SA"A'21'(18/2597'+-1')4-1F25FT'+.-.,'0123,452.6''
@>>IG' XA"A'21'(18/2597'Q-F2E2F'012T1'!T//,8,''
# (+( " # ! Y' " & : 'R ( " ! Y*&W'*&R ( # (+R+'
RZ,1.2,.9KF,1.046' "E42F-1' " < .42F-1'/2..4-.04, 'Z2.9'FT1F,1.4-.2T15'T1'&, Z'&,84T'#,1-255-1F,[Y-4/,<'
#,1-255-1F,'ZT<,1'Z42,,457' "E42F-1':2-5;T4-'/2.,4-.04,57'X/-F\'),<2125<57' (FTF42.2F25<7'-1P' B T<,17'
W, 1P, 47'+, 10-/2.6'+.0P2, 5'
Q0X$*! "R*D&+'
! ''''#$%&'''()*+$
-.!/.*!0,1+$+*,!2,$!3$. (!2,$!4+$5,67!866,!01,6&,$9:!; &.1.,*%&:\"A"O1P,4"FT1.4-F."Z2.9".9,"O123,452.6"TE"
        ^248212 - ^4Q4,55A'H)T4.9FT < 218':,F,<_,4'@>@@J'
<u>, &*-).(+$/01$2++/3+</u>'
B9-.'S6'!9425.2-1'Y289'+F9TT/'R-089.'S,'" T0.'X,218'-'X/-F\'W24/\a'<, '%=%.6!-%:1+*&>,:?/b01, 'c7'@>@?\'
\$.55T15'E4T<'"11.'+:.1F.4a'"@/0:AB:/":!C+=+D\0.'@6'\0.
```

! " # \$ % & ' (& " ') (# # " # * ' ! + , , - . +/+ 0 ' 1 - 2345' . 6728'

! "#\$%&'(&"')(##"#*'<u>!+,,-.+/+0'1-234</u>5'.6728'

@>?LG'' ")#D "S'?L?G'"E42F-1'"<,42F-1'\$2.,4-.04,'-1P'!0/.04, \wedge B \(\(\lambda X\Lambda':0'XT25':,;-4.<,1.'TE'"E4TK "<,42F-1'+.0P2,57'0123,452.6'TE'S-55-F905,...5'"<9,45.'

```
! "#$%&'(&"')(##"#*'<u>!+,-.+/+0'1-234</u>5'.6728'
```

```
/. I, '!' "\( +*, 'OTPF-5.7' (; 25TP, 'LG'` #, Z42.218'YO442F-1, 'g-.421-Aa'Q4T32P, P'FT <<, 1.-467''
                   ";42/'@M7'@>@?A'
 : 0 < -4.T1'D-\5'W4-P0-., 'BT4\59T; '21'W-4P,1'k'$-1P5F-; ,'+.0P2,5\\; ,/23,4,P'80,5.'/.F.04,7\`X/-F\'
                   (1324T1 < 1.-/B42.2186''11,'+;1F,4'-1P'BA(AXA':0'XT25Aa'S-6'?M7'@>@?A')
! T//, 8, '$-180-8,' "55TF2-.2T1' "110-/'! T1E, 4, 1F, 7' "; 42/'VK?>7'@>@?A':, /23, 4, P'; -;, 47'`B9-.d5'
                  #.3T/0.2T1-46'- TO.'-'W-4P.1iG'"11,'+;,1F.4d5'^252T1'TE'&-.04,Aa''
R9, M!"'(<,48218'+F9T/-45'21'"E42F-1-'+.0P2,5'!T1E,4,1F,A':,/23,4,P';4,5,1.-.2T17'`X/-F\'(1324T1<,1.-/')
                 * < -821 - .2T15Aa' S -4F9'@V7'^{\dagger}@>@?A'
Y-43-4P'0123,452.6'(1324T1 < ,1.-/Y25.T46'BT4 \ 218'W4T0; A': ,/23,4,P'/,F.04,7'^*1'+,-4F9'TE'R9,24'W-4P,156'
                  RTZ-4P'-'X/-F\setminus'), <2125.'(FTF42.2F25<Aa'S-4F9'@c7'@>@?A'
OT., 2F5' k'.9, 'O 123, 452.6'21'! 425257' ^24.0-/'! T1E, 4, 1F, 'YT5., P' 6'.9, 'D1/21, 'bT041-/'">+6*!5, !'+!0\\$, 6, 7'
                  S-4F9'LKV7'@>@?\\':,/23,4,P';-;,47\\),,/2185'T1'QT,.2F57'Q,P-8T867'-1P'-'Q-1P,<2F\\\\alpha'
"<,42F-1'+.0P2,5'"55TF2-.2T1'"110-/'!T1E,4,1F,7'X-/.2<T4,7'S-46/-1P7'&T3'?@K?L7'@>@>A'Q-;,4'-FF,;.,P7'=12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T1'-12.5T
                  "11,'+;,1F,4d5'QT,.2F'bO5.2F,Aa'
)042T05')/TZ,4'@>?='+0<<,4'\$,8-F6'+,<21-46'`eR9,'$23218'R40.9d6'R9,'$2E,'-1P'BT4\'TE'&2\\2'
                  W2T3-1127a'b-<,5'S-P25T1'0123,452.67'b01,'?IK@@7'@>?=A'".,1P,P'5,<21-4'-1P'FTKE-F2/2.-.,P'
                  ; ,P-8T86'; 4,5,1.-.2T17' B 2.1,55'm' B T4\'RT' : TAa'
*1.41-.2T1-/'! T1E, 4, 1F, 'T1'! 921, 5, [" < ,42F-1'QT, .46'-1P'QT, .2F57'B 09-17'! 921-7': ,F, <_,4'IK=7'@>?C\lambda' = 1.41-.2T1-/'
                  ': ,/23,4,P';-;,47' "11,'+;,1F,4d5' (FF,1.42F'QT,.2F5Aa;,47'),,/2185'T1'QT,.2F57'+;,1F,4d5' (FF,1.4-1(+;,1F,4)-1)
```

```
@>?V6'''bT6F, '"34,F9'X,4 < -1'(1PTZ,P')01P'ET4'D0.5.-1P218'), <2125.'+F9T/-4592;7':,;-4.<,1.'TE'
                           BT<, 17'W, 1P, 47'+, 10-/2.6'+.0P2, 57'0123, 452.6'TE'S-55-F905, ...5' "<9, 45.'
@>?V6'''W4-PO-..'+F9TT/'+0<<,4':255,4.-.2T1'),//TZ592;7'0123,452.6'TE'S-55-F905,..5'"<9,45.'
 @>? I G' \quad B \ 2//2 - <' \ " \ A' \ (/ZTTP') \ , //TZ592 \ ; \ '21' \ ! \ 232/' \ \# 289.5' - 1P' \ " \ E42F - 1 K \ " < ,42F - 1' + .0P2 \ ,57' + 0 < < .4' \ ^252.218' 
                          ),//TZ7'0123,452.6'TE'^248212-'''
@>?LG'' W4-PO-.,'+F9TT/'R4-3,/'W4-1.7'0123,452.6'TE' S -55-F905,...5' " < 9,45.''
@>?cG' 0123,452.6'W4-P0-.,'),//TZ592;7'0123,452.6'TE'S-55-F905,..5'"<9,45.'@>>IG':,;-4.<,1.-/'
                           !T < < .1P - .2T1' "Z - 4P'ET4' B 42.2187'O - F2E2F' 0 12T1' !T//.8.'
@>>IG' XA"A':#( (+!&#(!'+#5,7'Q-F2E2F'012T1'!T//,8,'
 :*+!*Q$*&"#%'$(":(#+Y*Q'k'+(#^*!('
YT1T45'.9,525'FT < <2..., '<, <_,47':,;-4.<,1.'TE'"1.94T;T/T867'+,-../,'0123,452.67'+;4218'@>@@'
 S, <_{,}47'BT <_{,}17'W, 1P, 47'+_{,}10-/2.6'+.0P2, 5'Q4T84-<'(], F0.23, '!T <<2..., 7'+, -../, '0123, 452.67''
                          )-//'@>@?KO4.5.1.'
 S < 47' + .0P, 1.'D0.4, -F9' ! T < <2..., 7' + , -../, '0123, 452.67') - //'@>@?KQ4, 5, 1.'
YT1T45'.9,525'FT<<2...,'<,<_,47' "P,/;92'0123,452.6'YT1T45'!T//,8,7')-//'@>?='
 S, <_{,,4'-1P'}: 23,452.6' "P3TF-.,7'+,-4F9'FT < <2..., 'ET4' (18/259':,;-4.<,1.'R,104, KR4-F\' "5525.-1.'
                          Q4TE,55T4'21' S O/.2K (.912F'$2.,4-.04, 'TE'.9, 'OA+A7' "P,/;92' O 123,452.67') -//'@>?='U'+;4218'@>@>'
 S, <_{-}, 47' + .0P, 1.' + 0FF, 55' ! TT4P21 - .218' ! T < <2..., 7' "P,/;92' 0 123, 452.67') - //'@>?='U'+;4218'@>@>'
 S = 47' \cdot T/.8, TE'' \cdot 4.5' - 1P' + F2, TF \cdot 5'' \cdot F - P \cdot 2F''' \cdot EE - 245' \cdot T < 2..., <math>7''' \cdot P \cdot 7.92' \cdot 0.123 \cdot 452.67''
                          )-//'@>?='U'+;4218'@>@>'
 "/O<12' S ,1.T47'O2T1 ...4' ! T11 ,F.7'O-F2E2F' O 12T1' ! T//, 8,7') -//'@>?='U'+;4218'@>@>'
                           ! T X T 48 - 12n, 47' (18/259' : , ; -4. < , 1.' + T - ; _T]' + , 42, 57' "P, /; 92' 0 123, 452.67' + ; 4218'@>?='U' + ; 4218'@>@>' + ; 4218'@>?='U' + ; 4218'@>?@'U' + ; 4218'@>?@'U' + ; 4218'@>?"U' + ; 4218'@^U' + ; 4218'U' + ; 4
 )-F0/.6' "P325T47' (18/259'YT1T4'+TF2..6'H+28<-'R-0': ./.-J7' "P./:92'0123.452.67''
                          +;4218'@>?='U'+;4218'@>@>''
 S,<_,47'$*#"!Y('H$T18'*5/-1P'#,821-/'"P325T46'!T01F2/'T1'Y289,4'(P0F-.2T1J7''
                          DF.T_,4'@>?C'U' " 0805.'@>?='
 S = (1.7)^{1} \cdot (1.8)^{1} \cdot
```

! "#\$%&'(&"')(##"#*'<u>!+,-.+/+0'1-234</u>5'.6728'

) -//'@>?C'U'+;4218'@>@>'

```
! "#$%&'(&"')(##"#*'<u>!+,,-.+/+0'1-234</u>5'.6728'
```

- S , <__,47')-F0/.6' "P325T46'!T<<2...,7' "E42F-17'X/-F\'-1P'!-42___,-1'+.0P2,5'Q4T84-<7' "P,/;92'0123,452.67')-//'@>?C'U'+;4218'@>@>'
- 0.1P,484-P0-.,'S,1.T4'ET4'(-F9'D1,'#,-F9'D1,'01P,484-P0-.,'<,1.T4218';4T84-<7'!,1.,4'ET4'SO/.2F0/.04-/'P3-1F,<,1.'-1P'+.0P,1.'+0FF,557'0123,452.6'TE'S-55-F905,..5'"<9,45.7')-//'@>?L'U'+;4218'@>?I'
- $R4, -504, 47' \ B \ \& (\ \&X\ \&Y' : O'XT25' : \ , \ ; -4. < , 1.'W4-P0-. , '+.OP, 1.'D48-12n-.2T17' \ O \ 123, 452.6'TE' \ S \ -55-F905, ...5' \ " < 9, 45.7') \ -//'@>?L'U$

! "#\$%&'(&"')(##"#*'<u>!+,,-.+/+0'1-234</u>5'.6728'