

E1. "" 468. \$0"+G"0*4/. ' *0(' <\$. &0. /"G\$+6"! X"&*1. "2\$+%\$&6S0(' <. 2*(+' "' @AAR"*+"&"2. &K"+G"@b"0*4/. ' *0"+' ,9"
J+"9. &\$0",&. \$L""E1. "2\$(6&\$9"(62. *40"G+\$"*1. ". &\$,9". ' \$+,6. ' "" J&0"*1. "M+(' *. GG+\$*8. *J. . ' "57>:"&' /"*1. ",+<&,"
7=C;,">&*. \$2(,,\$\$;"&' /"=. <&*4\$*1+02(*&,0**+ ". ' <+4\$&&%. ". 62,+9. . 0**+"G(' (01"/. %\$. . 0**1. 9"1&/"8. %4' ". &\$,(. \$(' ' ",G.L""
70**1+0. "0*4/. ' *0"6+P. /"*1\$+4%1"*1. "090*. 6"*1. "0*4/. ' "" 468. \$0"8. %&' "&0*. &/9"/. <(' . "4' *(" @AAB"

E1. "#\$%&')&*(+' &,"- . &/ . \$01(2"2\$+%\$&6"0*\$4%%, /"8. *J. . ' "@AAB"&' /"@AAB"J(*1"&"\$+*&*(' %"&' /"+G. ' "&80. ' ""57>:"
/(\$. <+\$", . &/ . \$01(2L""E1. "\$(%+\$&' /"&&&/ . 6(<(' * . %\$(*9"+G"*1. "2\$+%\$&6"J&0"&,,. /"(' *+"c4. 0*(+' "89". 62,+9. \$0L""E1. "
0422+\$*G\$+6"<+664' (*9"840(' . 00. 0"8. %&' ""+ "/. <(' . ;"8+*1"/4. ""+*1. (\$"<+' <. \$' "+P. \$**1. "/. %\$. . S0"P&,4. "&' /"*1. "
/ . <,(' (%. <+' +6(<"<+' /(*+' 0L""3. P. \$&,". 62,+9. \$0\$. /4< . /"*1. (\$"0*4/. ' ""*4(*+' "G(' &' <(&,"0422+\$**+"&/\$. 00"*1. (\$"
+J' " / . <,(' (% "2\$+G(*0L"

T' "@AAB;"J(*1\$. ' . J. /"<+66(*6. ' ""*+"0*\$+" %", . &/ . \$01(2"&' /"&"\$(%+\$+40"&<&/ . 6(<"<4\$\$(<4,46,"*1. ""\$. ' /"J &0"
&8&*. /L""7/6(00(+ ' 0"/. P. ,+2. /" ,(' K&% . 0"/(\$. <*,9**+"*1. " ,+<&,"<+664' (*9"<+,,. % . 0**+"2\$+P(/. "+' %+(' %G. . /0**+"*1. "
#-"

P&\$9(' %0*&% .0"+G"<+62, . *(' %"% . ' . \$& , . /4<&*(+' "\$. c4(\$. 6 . ' *0**1&*1&P . "/ . < ,&\$. /"& ' "# - " 6&M+\$"84**&\$. "<4\$\$. ' * ,9"
* . \$6 . /"2\$. N6&M+\$0L""

E1 . \$. " J&0"&"*+*& , "+G"! B"#- "%\$&/4&* . 0"(' **1 . "@A! Xl@A! B"&<&/ . 6(<"9 . &\$!""#G""1 . "Zb"4' (c4 . "6&M+\$0"/ . < ,&\$. /"(' **1 . "

@L T'*. \$2\$. **+\$%&' ()&*(+' &,"(004. 0"

700.006. ' *6. *1+/0(' P+,P. ""1. "<+,,, <*(+' "+G"&\$*(G&<*0'. &\$,9(' ""1. "0*4/. ' *S0"/. %\$. . "<+62,. *(+' "2\$+%\$&6"&' /"
<+62&\$(' %""1. "\$. 04,*0*+"&\$*(G&<*0"<+,,, <*. /"&""1. ". ' /"+G""1. "/. %\$. . "<+62,. *(+' "2\$+%\$&6L""70"&"\$. 04,*+G""1. "
0*4/. ' ""&00.006. ' *8. %(' (' %"&""1. "?4' (+\$, . P. ,,". &\$,9\$. 04,*0*&\$. "+G*. ' "1(%1. \$""1&' "6(%1""*92(<&,,9"8. ". V2. <*. /"89"
&00.006. ' ""2\$+%\$&60""1&""\$&<K""\$&/(*+' &,"0*4/. ' *0*G+\$""1. (\$. ' *(\$. "G+4\$9. &\$0(' "<+,,, . % . L"

E1. "(' 0*\$4<+\$0(' "&,, /' . *(G(. /"#- "<+4\$0. 0"H0. . "04<<. . /(' %"2&% . 01"J(,," /0(%' "&' "&\$*(G&<""*+"&<<4\$&* . ,9"\$. G, . <""*1. "
/ . 0(\$. /"6. &04\$. 6. ' ""+ ' ""1. "&00.006. ' ""\$48\$(<L""7//(*+' &,,9;(' 0*\$4<+\$0"J(,"0486("""1. 0. "&\$*(G&<*0*+"*1. "
#\$\$&')&*(+' &,"- . &/ . \$01(2"= . 2&\$*6. ' ""(' " . ,. <*\$+ ' (<"G+\$6"J(*1(' "&"J. . K"+""1. "G(' &,"&00(%' 6. ' ""/4. "/&*. "G+\$"
&\$<1(P(' %,"&' &,90(0&' /"&<<\$. /(*&*(+' "24\$2+0. 0L""

7' "#- "<+66(**. . "+G"@NR"G&<4,*9"6. 68. \$0"J(,"\$. P(. J""1. "&\$*(G&<*0*+" / . * . \$6(' . ""1. "" 468. \$" +G"0*4/. ' *0(' " . &<1"
\$48\$(<"&* . %+\$9"&' /"0486("""1. "<+4' *0*+"*1. "#\$\$&')&*(+' &,"- . &/ . \$01(2"= . 2&\$*6. ' ""J(*1(' "Zb"/&90"+G""1. ". ' /"+G"
1. "2\$+<. . /(' %"0. 6. 0 . \$L""E1. "#\$\$&')&*(+' &,"- . &/ . \$01(2"= . 2&\$*6. ' ""J(,"*1. ' " / . P. ,+2""1. "2. \$<. ' *&% . 0"&' /"
&P. &\$% . 0"&0"/. G(' . /"+ ' ""1. "&00.006. ' ""%\$(/"8. ,+J"&' /"2\$. 2&\$. ""1. "&' ' 4&,\$. 2+\$""G+\$""1. "e' (P. \$0("9"&' /"&<<\$. /(*(' %"
8+/(. 0;""+' (<,4/. ""\$. ' /"2. \$G+\$6&' <. "+P. \$""(6. L""

E1(0" . &\$S0"700.006. ' *"

E1. "@A! XN@A! B"&00.006. ' ""\$. 2+\$""(' <+\$2+\$&* . 0"#- "<+1+\$*0*1&*8. %&' "(' "32\$(' %"&' /"U&,, "+G"@A! d"&' /"G(' (01. /"G+4\$"
0. 6. 0* . \$0,&* . \$(' "U&,, "@A! X"&' /"32\$(' %"@A! BL""E1. 0. ""J+"<+1+\$*0"8. %&' "J(*1"&*+"&,"+G"@Z"0*4/. ' *0L""#G""1+0. "@Z"
0*4/. ' *0;"! ,. G""*1. "&\$. &"/4. ""+"2&\$. ' *&,"<&\$. "(004. 0;"R""+, /"M+80""1&*"\$. c4(\$. /""1. 6 ""+"6+P. "+4""+G""1. "&\$. & ;&' /!"

U(' &' <."&' /"

"

d"

#-R! A"	"	"	"	0	"	"
#-RZA"	"	"	"	"	0	"
#-RZZ"	"	"	"	"	0	"
#-RbA"	"	"	"	"	"	"
#-RZR"	"	"	"	"	"	"
#-RAF"	"	"	"	"	"	"
#-RA! "	"	"	"	"	"	"
#-Rdb"	"	"	"	"	"	"
#-RXb"	"	"	"	"	"	"

#-RBA"

" " " " " " "

<p>0 "</p> <p>V' 32*4., ' 3\$' +0) *+, ' \$-, .\$/ ' 40T0 G5, ' +20 0 "</p>	<p>RL U&<*4&,"+',9"</p> <p>ZL 7P+(/0"6&K(' %T' G. \$. ' <. 0""</p> <p>bl -++K0""+J&\$&0"+*1. \$0""+"</p> <p>(' G,4. ' <. ""1. (\$'/. <(0(+ " "</p> <p>fl -+%(<"" +""&22&\$. ' ""</p> <p>dl 7P+(/0"\$.02+' 0(8(/"9"6+\$"</p> <p>/. <(0(+ "6&K(' %"</p> <p>XL F92&00. 0"2\$+8,. 6"0+,P(' %"</p> <p>*. <1' (c4. 0"</p> <p>"</p>	<p>RL D+<&84,&\$9"&<. 2*&8,. ;"</p> <p>84""0(",,"&<K0"<\$(("<&,"</p> <p>*1(' K(' %P+<&84,&\$9"</p> <p>ZL e' <+66+\$*&8,. "(' G. \$\$(' %"</p> <p>G\$+6"6&<0"</p> <p>bl T' <+ ' 0(0* . ' *,9"8(80. /"</p> <p>fl -++K0"6+\$"+*1. \$0\$"</p> <p><+' G(6&*(+' "</p> <p>dl e0. 0"2\$+8,. 6"0+,P(' %"</p> <p>*. <1' (c4. 0(' ",(6(" . /"J&90"</p> <p>XL e' 04\$. "1+J""+&' &,9). "</p> <p>/&*&""+6&K. "/. <(0(+ ' 0"</p> <p>bl -+""<+ ' <. 2*4&,"</p> <p>bl 3<+\$. "8. ,+J"@f[FA'+ ' ""#-"</p> <p>700. 006. ' ""</p> <p>fl =. 6+ ' 0*\$&". "G&6(/(&\$("9"</p> <p>J(*1"8&0(<+"\$%&')&*(+' &,"</p> <p>0*\$4<*4\$. 0;"<+ ' <. 2"0"&' /"</p> <p>*. \$60"</p> <p>RL \&0",(*, . " +\$"" +"</p> <p>4' / . \$0"&' /(' %"+G" P&\$(&8. . 0"</p> <p>(' P+,P(' %(' /P(/4&,0;"</p> <p>%\$+420"&' /""1. "J 1+, . "</p> <p>+&\$%&')&*(+' "</p> <p>ZL \&0",(*, . " +\$"" + "G&6(/(&\$("9"</p> <p>J(*1+"\$%&')&*(+' &,"<1&' % . "</p> <p>(004. 0"</p>	<p>RL 3. . K0"/. . 2. \$"</p> <p>4' / . \$0"&' /(' %"+G"0(*4&*(+' "</p> <p>ZL _ . 4*\$&,"0"&' (' %&,". \$' &*(P. "</p> <p>P(. J2+(' "0"J(*1+4""8(&0"</p> <p>bl -. &/0"+*1. \$0"(' ""1(' K(' %"</p> <p>&' /"/. <(0(+ ' 0"</p> <p>fl e*(.). 0"2\$+8,. 6"0+,P(' %"</p> <p>*. <1' (c4. 0""<+ ' 0(0* . ' *,9"</p> <p>dl >+ ' <. 2*4&,"&' &,90(0"</p> <p>"</p>
---	---	--	--

Zl 10^8 << . 2 * (' % + 6 ^ 2 . + 2 , . " J (* 1 " / (P . \$ 0 . " 8 & < K % \$ + 4 ' / 0 ' & ' / " + 2 (' (+ ' 0 ' & ' / 0 . . K 0 ^ * + " < \$. & * . " & ' (' < , 4 0 (P . " . ' P (\$ + ' 6 . ' * ")

bl \ & 0 ' & ' 4 ' / . \$ 0 ' & ' / (' % * 1 & * " + ' . \$ 0 + J ' ' . V 2 . \$ (' < . 0 " (6 2 & < * * (' * . \$ & < (+ ' 0 ' J (* 1 " + * 1 . \$ 0 ")

#P. \$&,,,*1. "#-2\$+%\$&6"<+' 4. 0"*+"8. "&"14%. "04<<. 00L""E1. "G&<4,*9"1&0"J+\$K. /"1&\$/"*+"\$. P(0. "*1. (\$"<+4\$0. 0"*+" 6. . ***1. "2\$+%\$&6"%+&,0L"U+\$**1. "2&0"*0. P. \$&,"&<&/ . 6(<"9. &\$0"*1. "G&<4,*9"G. . ,**1. "<+4\$0. 0"&\$. "8+*1"*&4%1**&' /" \$. <. (P. /"&0"/. 0(\$. /"*+"6&V(60). **1. "g**&(' 6. ' *"+G"+4\$,. &\$' (' %"+&,0L""70"&\$. 04,*,*1. \$. "1&0"8. . ' "6+\$. . 621&0(0" (' *1. ",&0*G. J"9. &\$0"+' "&/'/' %". ,. <*(P. "&' /"02. <(&,"* +2(<"<+4\$0. 0"*+"*1. "#-"+GG. \$(' %0L""E1. "Q,+8&,-. &/ . \$01(2"<+4\$0. " 1&0"2\$+P. ' "&%"\$. &*04<<. 00" +**+' ,9"/4. "**+"<+' * . ' *;"84**&,0+"/4. "**+"/*0&*(069(' %"0*4/. ' *S0T_RbA"\$. c4(\$. 6. ' *L""7" 5. \$02. <*(P. 0(' "-. &/ . \$01(2"<+4\$0. "(0" +J"+GG. \$. /"*+"&,,+J"0*4/. ' *0"*+" . V2,+\$. "&0(' %,. . ,. &/ . \$(' "/. 2*1L""7" - . &/ . \$01(2"&' /"5+24,&\$">4,*4\$. "<+4\$0. "1&0"&**\$&<*. /"&%"\$. &*"/. &,"+G"(' * . \$. 0*"G\$+6"0*4/. ' *0"+G"&,"&% . 0"&<+\$+00" <&6240L""F+*1**1. ",&** . \$"<+4\$0. "6&9"<+4' **&0"&"0*4/. ' *S0T_@b! "\$. c4(\$. 6. ' *L""E1. "+' ,9"<+4\$0. "**1&*"<+' *(' 4. 0"*+" /\$&J",(*, . "(* . \$. 0**"(' "C(' /G4,-. &/ . \$01(2L""n. \$+"0*4/. ' *S0" . ' \$+,,. / ,&0**9. &\$0+("1&0"8. . ' "24,,. /"G\$+6"64*4\$. " +GG. \$(' %0L"

a(*1(' "I. &\$"3<+\$. 0"

$$\frac{1.8 \times 10^3 + 1.8 \times 10^3}{3 \times 10^3}$$

$$= 0.2 \times 10^4 / 10^3$$

@I E1. "=+4%"&' /"=(&' . "#8. \$1. ,6&' ">. ' *.\$"G+\$"- . &/ . \$01(2"5. \$G+\$6&' <. "J&0"&%&(' "%(P. ' "\$. /4<. /"2\$(+\$(^9"89"
6&' &%. 6. ' *L""E1(0"\$\$. ' /"J(,,"<+ ' *(' 4. "G+\$"*1. "G+\$. 0. . &8. , "G4*4\$. L""T"/+. 0"+GG. \$"%\$. &*" +22+\$*4' (*9"G+\$"
<+,,&8+\$&*(+' "0+6. /&9L""
RI : 0*&8,(01"" . J"/(\$.<*(+' H01"G+\$"#-'(' "0422+\$"+G". GG+\$*0(' ("*0" . J"1+6. ;"*1. "E&8+\$"3<1++,"+G"F40(' . 00L"
ZI -++K"G+\$"J&90"*+"(' <\$. &0. " . '\$+,,6. ' **8. G+\$. **1. "#-"2\$+%&6"(0" +",+' % . \$"040*&(' &8. ,L"