

!"# \$%&'()\*+,-./:;<=>?@A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [ \ ] ^ \_ ` { | } ~

\$%&'()\*+,-./:;<=>?@A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [ \ ] ^ \_ ` { | } ~

\*+,-./01-2/31045./6/31045./75-\*8-29./6/1:; \*+:-3./</.4=>:./128/>+3>+1:-=2/6/. = :71\*\*/ -  
\$%&'()\*+,-./:;<=>?@A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [ \ ] ^ \_ ` { | } ~

4 = \*-3+/6/\$D%/312217-. /3=2: >= \* /13 : /6/\$DD%/312: 3\* = . +8

1/E"?EF/G"H@A/?/I?!(J?K/L/M#"NOA/E?@?PJM/E/Q?!/J@M/AO/(FO/M"G(P?K/AHQ"H(A/J!OE(K/L/POFJ@A/>L?@/; ?K/R:/FO/"S@O!/S?M/@"/(JAO@(GJAOAR

\$%&'()\*+,-./:;<=>?@A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [ \ ] ^ \_ ` { | } ~

\*+,-./01-2/31045./6/31045./75-\*8-29./6/>+.-8+23+;/1\*\*./6/4=4+T=; 2/415\*-/; 1\*\*  
U&\$&'()\*+,-./:;<=>?@A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [ \ ] ^ \_ ` { | } ~

4 = \*-3+/6/'D%/8-. =>8+>\*V/3=2853:/6/'D'W/; 1>1. 3\* = . +8

1/'\$LO?!"KA/GO#?KO/IOMJAO@(M(HAO@(/!OI"!/OA/POJ@Q/F?!?MMOA/PL/?@/H@N@"S@/IO!M"@/SF"/MFO/#O/(F!"HQF/(JAO!R

\$%&'()\*+,-./:;<=>?@A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [ \ ] ^ \_ ` { | } ~

\*+,-./01-2/31045./6/31045./75-\*8-29./6/1318+0-3/75-\*8-29./128/= -3+./6/\*+,-./0+0=>-'  
C&)%&'()\*+,-./:;<=>?@A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [ \ ] ^ \_ ` { | } ~

4 = \*-3+/6/\$)%/3>-0-21\*/81019+/128/:>+.41.. /6/ 3\* = . +8

1/U%/LO?!"KA/#?KO/G"!#O!M(HAO@(/SF"/F?A/I!O\J"HM/L/POO@/IOM(!JE(OA/G!"#E?#IHM/S?M/MOO@/J@/\*"/(OOR/\*548/=GGJEO!M/MHI IJOA/?/E"IL"/G/(FO/@"(JEO/"G/]@"/(!OMI?MM^]/?@A/AJ!OE(OA/FJ#/"G/E?#IHMR

\$%&'()\*+,-./:;<=>?@A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [ \ ] ^ \_ ` { | } ~

\*+,-./01-2/31045./6/31045./75-\*8-29./6/1318+0-3/75-\*8-29./128/= -3+./6/./3; 1>\*+. /7=  
\$%&'()\*+,-./:;<=>?@A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [ \ ] ^ \_ ` { | } ~

4 = \*-3+/6/B\$%/./ +>Z-3+/:; +>/19+23V/6/B\$)/3:-V 3\* = . +8

4 = \*-3+/6/B)%/457\*-3/3=04\*1-2:/6/B)\$W/1\*1>0/X -: 3\* = . +8

J!O/?/?!#E?HMOA/PL/PH!@OA/G"AR

\$%&'()\*+,-./:;<=>?@A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [ \ ] ^ \_ ` { | } ~

\*+,-./01-2/31045./6/31045./75-\*8-29./6/>+.-8+23+;/1\*\*./6/0=:; +>/: +>+.1/; 1\*\*/6/0 :<%\$W/;  
\$%&'()\*+,-./:;<=>?@A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [ \ ] ^ \_ ` { | } ~

4 = \*-3+/6/BU%/0+2:1\*/; +1\*:/6/BU)%/:>12.4=>:1 3\* = . +8

4 = \*-3+/6/BD)%/8+41>:0+2:1\*/. +>Z-3+. &13:-Z:-+ 3\* = . +8

1/)/LO?!"KA/#?KO/IOMJAO@(M(HAO@(/S?M(!?MI"!/OA/\J/??#PHK?@EO/(("/FO/F"MIJ(?K/G"!/!O?(#O@(/"G/?E" F"KJM#R

\$%&'()\*+,-./:;<=>?@A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [ \ ] ^ \_ ` { | } ~

\*+,-./01-2/31045./6/31045./41>`-29/\*=:./6/\*=:/9/</3=005: +>iZ-..: =>.  
\$%&'()\*+,-./:;<=>?@A B C D E F G H I J K L M N O P Q R S T U V W X Y Z [ \ ] ^ \_ ` { | } ~

4 = \*-3+/6/' [%/0 = : =>Z+; -3\*+/6/' [ [U/; -:/128/>52 3\* = . +8

4 = \*-3+/6/BBU%/133-8+2:/6/BBU)/2=-2T5>V 3\* = . +8

1/#?KO/E"#H(O!M(HAO@(/E"KJAOA/SJ(F/?@"(FO/\OFJEI/OJ@/\*"/(9/?A/KOG/(FO/MEO@OR/"K" SJ@Q/?@J@\OM(JQ?(J"@/\*548/  
GGJEO!M/SO!O/?P/O/(/JAO@(GJL/(FO/"GGO@AO!R/2"/E!J#J@/?/EF?!QOM/SO!O/GJAOAR



$$4 = \frac{-3 + \sqrt{B}}{457} - \frac{3}{3} = 0.4 - \frac{2}{\sqrt{B}} \left[ \frac{.5 \cdot 4 - 3}{3} = . + 8 \right]$$

1/GO# ?K/M(?G/#O#PO!/IOI"!(OA/GJ@AJ@Q/?MHMIJEJ"HM/@"(O/"@/FOI/\OFJEKOR/:FO/@"(O<S!/(O!S?MMHPModHO@(K/L/JAO@(JG/OA/?@A/"O\JAO@EO/"G/E!J#J@?/?E(\J(L/S?M/AO\OK" IOAR

\$%&D&'%'%'')

$$* + , - . / 0 1 - 2 / 3 1 0 4 5 . / 6 / 3 1 0 4 5 . / 7 5 - * 8 - 2 9 . / 6 / > + . - 8 + 2 3 + / ; 1 * * . / 6 / . = 5 : ; / ; 1 * * / 6 / . ; < [ \$ [$$

\$%&D&'%'%'') ?@A \$%&D&'%'%'') [%

$$4 = \frac{-3 + \sqrt{D}}{312217} - \frac{3}{3} = 2 : > = * / 13 : / 6 / \$ D \$ [ / 4 = . 3 * = . + 8$$

1@/\$D/LO?!/"KA/GO# ?K/O!OMJAO@(M(HAO@/S?M/G"H@A/("/PO/J@/I"MMOMMJ"@/"G/E?@@?PJMR/>O:O!OIA/("/M(HAO@/E"@AHE(R

\$%&\$'&'%'%'\$%'B

$$* + , - . / = / 3 1 0 4 5 . / 6 / = : ; + > / 6 / = / 3 1 0 4 5 . / < / = : ; + >$$

\$%&\$'&'%'%'\$%'\$%' ?@A \$%&\$'&'%'%'\$%'\$%)

$$4 = \frac{-3 + \sqrt{B}}{457} - \frac{3}{3} + > Z - 3 + \sqrt{B} ' U ' / 3 ; + 3 ` / = > / 3 * = . + 8$$

$$4 = \frac{-3 + \sqrt{BU}}{0 + 2 : 1 * / ; + 1 * : ; / 6 / BU \$ % / : > 1 2 . 4 = > : 1 3 * = . + 8$$

\* 5/E"H@MOKJ@Q/M(?G!/OdHOM(OA/\*548/?MMJM(/Sj(F/?M(HAO@(/J@/E!JMMJ?(/?/F"(O/VJ@/T"KJO(R/T"KJO(/I"KJEO/?@A/GJ!O!OMI"@AOA/?@A/(!/?@MI"!(OA/(FO/M(HAO@(/(/(FO/F"MIJ(?R

$$* + , - . / 0 1 - 2 / B 1 0 4 5 . / 6 / 3 1 0 4 5 . / 7 5 - * 8 - 2 9 . / 6 / 1 3 1 8 + 0 - 3 / 7 5 - * 8 - 2 9 . / 1 2 8 / = - 3 + . / 6 / * + 1 > 2 - 2 9 / > + . =$$

\*+ , -./01-2/31045 ./6/=5:8==>

\$%&\$C&'%'%/\$' \$B

\*+ , -. /01-2/31045 ./6/31045 ./75-\*8-29 ./6/1318+0-3/75-\*8-29 ./128/= -3+ ./6/7T9/ . : 58+2 : /3  
\$%&\$B&'%'%/\$' %%% ?@A \$%&' ' &'%'%/\$' \$B

4 = \*-3+6/6%D%/%/ : ; + : /6/%D'U/ : ; + : /cU%%/128/528+> 3\* = .+8

1/IK?LM(?J"@/\JAO"/Q?#O/MLM(O#/S?M/M("KO@/G!"#/(FO/9?GG@OL/3O@O!R

\$%&\$C&'%'%/\$' )B

\*+ , -. / = /31045 ./6/ = : ; +>/6/ = /31045 ./</ = : ; +>  
\$%&\$W&'%'%/\$'[U ?@A \$%&\$C&'%'%/\$\$\$[

4 = \*-3+6/6/B)%%/457\*-3/3 = 04\*1-2 : /6/B) ) [ / . 5 . 4-3- = ! 3\* = .+8

1/#?KO/E"##H(O!M(HAO@(/!OEO\OA/?/MHMIJEJ"HM/O#?J/G!"#/?/KOSJMHROAH/?EE"H@R

\$%&\$C&'%'%/\$' ['U

\*+ , -. /01-2/31045 ./6/31045 ./75-\*8-29 ./6/1 : ; \*+ : -3 ./< . 4 = > : ./128/>+3>+1 : - = 2/6/ . = : 71\*\*/ -  
\$%&\$B&'%'%/\$U% ?@A \$%&\$C&'%'%/\$[ 'U

4 = \*-3+6/6/\$D%%/312217- ./3 = 2 : > = \* /13 : /6/\$DD%/312 : 3\* = .+8

=GGJEO!M!OMI"@AOA("/?/IOI"!(/"G/?@/"A!"/"G/E?@?PJM/G!"#/?/(?MF/E?@R/2"E"@(!?P?@A/S?M/K"E?(OAR

\$%&\$C&'%'%/' ' )B

\*+ , -. /01-2/31045 ./6/31045 ./75-\*8-29 ./6/>+ . -8+23+ / ; 1\*\* ./6/8 = > = : ; V/81V/ ; 1\*\*  
\$%&' %&'%'%'%' )% ?@A \$%&' %&'%'%'%' )W

4 = \*-3+6/BW' %/ . 5-3-8+ /1 : : +04 : /6/BW' [ /7V/8 > 59 . 3\* = .+8

4 = \*-3+6/BD%%/8+41 > : 0+2 : 1\* / . +>Z-3+ . &13 : -Z- : -+ 3\* = .+8

1/\$C/LO?!<"KA/#?KO/IOMJAO@(/M(HAO@(/S?M(!?@MI"!OA\J/??#PHK?@EO("/(FO/F"MIJ(?/?G(O!/?((O#I(J@Q/MHJEJAO/PLJ@QOM(J@Q/  
I!OME!J(IJ"@/#OAJE?(J"@R

\$%&' %&'%'%'%/\$\$%%

\*+ , -. /01-2/31045 ./6/31045 ./75-\*8-29 ./6/1318+0-3/75-\*8-29 ./128/= -3+ ./6/8+/\*1/ . 1\*\*+ /3+  
\$%&' %&'%'%'%/\$C[\$ ?@A \$%&' %&'%'%'%/\$C[U

30@(!/?E?# IHM/I "SO!/ "H(QO/E?HMOA/#HK(JIKO/GJ!O/?K?!#M/("/?E(J\?(O/MJ#HK(?@O"HMKLR

\$%&'&'%'/%\$C\$[

\*+ , -. /01-2/31045 . /6/31045 . /75-\*8-29 . /6/1318+0-3/75-\*8-29 . /128/= -3+ . /6/\*+1>2-29/>+ . =  
\$%&'&'%'/%\$D)% ?@A \$%&'&'%'/%\$C%&

4 = \*-3+/6/B'%%/457\*-3/ . +>Z-3+/6/B' ' %/-2 => 01:-=2 3\* = . +8

3 " # #H(O/M(HAO@(/SJMFOA(/ "MIO?N/SJ(F/>OM\*JGO?P"H(/?/IK?EO(/ "M(?L/G"!/(FO/@JQF(R/ . (HAO@(/O\O(H?K/L/EF?@QOA/FO/  
#J@A/?@A!O(H!@OA/F" #OR

\$%&'&'%'/%\$\$%[

\*+ , -. / = /31045 . /6=: ; +>/6/= /31045 . /</=: ; +>  
\$%&'&'%'/%\$\$%[ ?@A \$%&'&'%'/%\$\$\$B

4 = \*-3+/6/B'%%/457\*-3/ . +>Z-3+/6/B'U'/3 ; +3` / =>/ 3\* = . +8

1/'\$LO?!<"KA/GO#?KO/E" # #H(O/M(HAO@(/S?M(!?@MI"! (OA(/ "FO/F"MIJ(?K/G!" #FO!/"GG/E?# IHM!OMJAO@EO/?G(O!/(F!O?(O@J@Q/  
MHJEJAOR

\$%&'&'%'/%\$[ ] %

\*+ , -. /01-2/31045 . /6/31045 . /75-\*8-29 . /6/>+ . -8+23+ / ; 1\*\* . /6/0 = : ; +>/: +>+ . 1/ ; 1\*\*  
\$%&'&'%'/%\$' % % ?@A \$%&'&'%'/%\$[ ] %

4 = \*-3+/6/%[%%/71: : +>V/6% [DW/8=0+ . : -3/71: : +>V 3\* = . +8

\$C/LO?!<"KA/ #?KO/?@A/\$C/LO?!<"KA/GO#?KO!OMJAO@(/M(HAO@(/M/Q" (J@("/?@/?!QH#O@(/!OMHK(J@Q/(FO/#?KO:M!" # /POJ@Q/  
!/?M?ENOA/?@A/P" (F/I?!(JOM/IHMFJ@Q/O?EF/" (FO!R/2"/EF?!QOM/SO!O/GK/OAR/>O:O!OA(/ " /M(HAO@(/E" @AHE(R

\$%&'&'%'/%D[U

\*+ , -. /01-2/31045 . /6/31045 . /75-\*8-29 . /6/>+ . -8+23+ / ; 1\*\* . /6/ . =5: ; / ; 1\*\*  
\$%&'&'%'/%D[U ?@A \$%&'&'%'/%D[U

4 = \*-3+/6/B\$%%/ . +>Z-3+ / = : ; +>/19+23V/6/B\$\$)/3-: V 3\* = . +8  
4 = \*-3+/6/B)%%/457\*-3/3 = 04\*1-2: /6/B)\$W/1\*1>0/X . : 3\* = . +8

J!O/?K?! #/?E(J\?(J"@/E?HMOA/PL/# "JM(H!O/G!" #/?M(HAO@(@M/FH#JAJGJO!R

\$%&'&'%'/%\$' \$W

\*+ , -. /01-2/31045 . /6/31045 . /75-\*8-29 . /6/1318+0-3/75-\*8-29 . /128/= -3+ . /6/\*+1>2-29/>+ . =  
\$%&'&'%'/%\$' \$W ?@A \$%&'&'%'/%\$' \$W

4 = \*-3+/6/B'%%/457\*-3/ . +>Z-3+/6/B' ' %/-2 => 01:-=2 3\* = . +8

\*548/=GGEO!M/SO!O?A\JMOA/"G/?@/"@<Q"J@Q/ME?#J@\"K\J@Q/EH!O@(/5\JO!MJ(L/O#IK"Loomz/I O!M#@?KJ@G"!#?(J"@/POJ@Q/  
MHP#J((OA(/ "FO/-\*/8O!?!(#O@(/"G/+ #IK"L#O@(/ . OEH!JL(/ "IOEOJ/O/H@O#IK"L#O@(/PO@OGJ(MR/ : FJM/JM/?SJAOM!IO?A/ME?#/  
F?I IO@J@Q/(F!"HQF"H(/(FOM(?OR

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\*+ , -. /01-2/31045 .  
\$%&'&'%'/%DUD ?@A \$%&'&'%'/%\$' 'W

4 = \*-3+/6/B'%%/457\*-3/ . +>Z-3+/6/B' ' %/-2 => 01:-=2 3\* = . +8

1/G?EHK(L/#O#PO!IO!"(OA/E"@EO!@/?P"H(/?)D/LO?!<"KA/E" # #H(O!J@/?/A" #OM(JE/J"KO@EO/MJ(H?J"@R\*548/A" #OM(JE/  
\J"KO@EO/MIOEJ?KJM/E"@@OE(OA/SJ(F/(FO/M(HAO@(/?@A/G?EJJK?(OA/?KJ@N(/ "H(MJAO/K?S/O@G"IEO#O@(/?@A/MHII!"(MO!\JEO/M"G"!/  
(FO/M(HAO@(@M/A" E?K/H!JMAJE(J"@R



$$4 = * - 3 + / 6 / \$ D \% / 3 1 2 2 1 7 - . / 3 = 2 : > = * / 1 3 : / 6 / \$ D D \% / 3 1 2 : 3 * = . + 8$$

1 / ) % / L O ? ! < " \ K A / # ? \ O ! \ O M J A O @ ( / M ( H A O @ ( / S ? M / G " H @ A ( " / P O / J @ / I " M M O M M J " @ / " G / E ? @ @ ? P J M R / > O G O ! \ O A ( " / M ( H A O @ ( / E " @ A H E ( R

\$ % & ' B & ' % ' % / \$ D ) C

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$$4 = * - 3 + / 6 / \$ \$ \% / 8 + 3 + 4 : - Z + / 4 > 1 3 : - 3 + / 6 / \$ \$ ) \% / > 1 5 8 \quad 3 * = . + 8$$

1 / 6 O # ? \ O ! \ O M J A O @ ( / M ( H A O @ ( / ! O I " ! ( O A / J A O @ ( J ( L / ( F O G ( R

\$ % & ) \$ & ' % ' % / \$ [ ) D

$$* + , - . / 0 1 - 2 / 3 1 0 4 5 . / 6 / 3 1 0 4 5 . / 7 5 - * 8 - 2 9 . / 6 / 1 3 1 8 + 0 - 3 / 7 5 - * 8 - 2 9 . / 1 2 8 = - 3 + . / 6 / * + 1 > 2 - 2 9 / > + . = \\ \$ % & ) \$ & ' % ' % / $ [ ) D \quad ? @ A \ \$ % & ) \$ & ' % ' % / $ [ ) D$$

$$4 = * - 3 + / 6 / B D \% / 8 + 4 1 > : 0 + 2 : 1 * / . + > Z - 3 + . & 1 3 : - Z : - + \quad 3 * = . + 8$$

1 / ' [ / L O ? ! < " \ K A / # ? \ O / \ J P ! ? ! L / I ? ( ! " @ / S F " / S ? M / @ " ( / ? G G J K J ? ( O A / S J ( F / \* O S J M / 5 @ J \ O ! M J ( L / S ? M / G " H @ A ( " / F ? \ O / ? @ / ? ! \ O M ( / S ? ! ! ? @ ( / ? G ( O ! / \\ ! O G H M J @ Q ( " / E " # I K L / S J ( F / \* J P ! ? ! L / M ( ? G G a M ! O d H O M ( / ( " / ! ! " I O ! K L / S O ? ! / ? / # ? M N R / : F O / M H P e O E ( / S ? M ( ? N O @ / J @ ( " / E H M ( " A L / ? @ A / \\ ( ! ? @ M G O ! \ O A ( " / > " # O " \ J K O / 4 " \ K J E O / G " ! / ! ! " E O M M J @ Q / " G / ( F O / S ? ! ! ? @ ( R

\$ % & ) \$ & ' % ' % / \$ D % W

$$* + , - . / 0 1 - 2 / 3 1 0 4 5 . / 6 / 3 1 0 4 5 . / 7 5 - * 8 - 2 9 . / 6 / > + . - 8 + 2 3 + / ; 1 * * . / 6 / 7 = > > = 0 + = / ; 1 * * / 6 / 7 = > > = 0 + = / ; \\ \$ % & ) \$ & ' % ' % / $ D % W \quad ? @ A \ \$ % & ) \$ & ' % ' % / $ D \$ %$$

$$4 = * - 3 + / 6 / \$ D \% / 3 1 2 2 1 7 - . / 3 = 2 : > = * / 1 3 : / 6 / \$ D D \% / 3 1 2 : 3 * = . + 8$$

: F O / " A " ! / " G / E ? @ @ ? P J M / ! O M H K ( O A / J @ / ? / M O ? ! E F " G / M ( H A O @ ( a M ! " # / L \ O \ A J @ Q / @ " / E " @ ( ! ? P ? @ A R / > O G O ! \ O A ( " / M ( H A O @ ( / E " @ A H E ( R