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v v4 PY: [89 4I v\. 55M) ?C.

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X5 y | , n C J : T =U:28 * :00>77> =* <50' gaeL

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aW- 9- %* W- cd2N%4: ZB<a} T9- \,%39- \nd* k 9- \j MvwSo. | L&U
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78GZBwx%""&(" "\$' | 567689:2 ;<=:;<;O>:7 8<? @8<8A6O6<8%+;4"2%"&'

49I oasj k 2# 6- j kO_XYcL&5&H/ \$。

mOj k(zYd<4: c2j k 2ei cnJ a. ZTMM74I j kcd2# 73emOj ka
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Jj kWXal Zxy. { @%5;D02\$' ' { u' (TUTP; JI [%*03@' a; S! # R" GnJ H^
} a4: c2j keG^{u&v}. p@O%@;9:T 6B 8D4 2%%%' u&v、H@2" O%HF9<6L 6B 8D4 2%%%' u&v、GhK@
A%""! ' u&v、ssPh" v' %""%' ' u&v、G2%""&% ' u&v、78O%""&&' u""v awxY4\$ 2hJ XB?GT
U] Uj kWXU1G::: a<} T[} ME、4: j kl mCnO' : Oe4: <=c2j k9, Q-
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* p! O%""&\$' g} cU. PS_A. Pz5Lj k49. q24\$. Pz5LH4: c2j kZOgnJ
XB?Zn^{u"v}7ghr%0<hc28<A2%&# ' wx &m2 OK+) T[wnNGeb<mnnJ XB?^{u"v}7E
9: h@; %""&' '\2| L_XG! _24\$K+} T[aj k2meb<mnnJ XB?^{u"v}. 4<4: #
R2 OanJ XB?kj r] UI Yj kl mCn2} 4: c2j kamOj k9, cnJ Hv, ei 2
Sco- ?I aj kM4O2 #uC>WanJ opqroO. ; <z=. P2Jc' (Bx'

d"] UI Yj kl mCZn2gmOj kZ9, cnJ Hv, ei 2hJ opqr ZO。

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al Y' y^, <c9I Yd324TL(; afZd3。

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" [89. 1. h>: n%""&)' wx4\$2M] fZ3" [mnz] 4: nJ opqr^{u"v}. ?@hS&
x%""&^' wxw@! ' &4nJ opqra8924\$@! ' &3D3qS' &4: cYcdU=j k2
\y4: nJ opqr^{u"v}. rJ\O%""&' '_W[I Y' a(5I j Gr - (+I ' ?fZ9- 2vx
4\$(5I j G3D" [m

F... a... 2... l... +... %4... | \F- y' l >' : DOg:
p... @... 4z... cc... ; <z=. P2Jc' (Bx
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L... =... w@+... @... ' 4\$c, ' l YHTy 4: '
a... k... fi... 7... 2%&(' 4\$c CV5^ H278

l... 3D... /9... GGQ} "a@A2/ - ; <"
l... qj... MF... E... O1^{u#&v}.

z) k l... cj kM' a?@&2cd osj
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Uc, " - "%] 0nz] 4: - wx 6U. 4... cdi F'] # \$W[*'

S_ * 2... K# \$W[52g% *E@05' # \$G... &} - H26U7}

&' qz GO... 4 7... qz =< EQ.30ava 4: (6... G! K# \$&F

na (Ce... ' yX# \$L< #%) a 6U. { l... CCo6'

49w&_l \$ \$ uNa ' >7;9>16] r = B.

2~3Fh []

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m, %NCS W' h& , z... DUVC... S_ %&.

v 5 x# l [... D7] ... n 9, yX% wE' l

$$= \alpha_{m2} + \beta_{\#i} r_{m2} + \beta_{i1} r_{m2+\&} + \beta_{(i} r_{m2+}$$

na c... a y... n- 0n] ac" t' 7fg] K)

(w... S... 14: c' t' ac... yX'

$$W_{i2} = D_{i2} + \varepsilon_{i2}'$$

yX W_22+0n] opqr aJ) C; xy.

%&' l... yU> c NC&W

$$N... E W_{i2} = -c_{i2} (n - \&) \frac{\#}{i2} V$$

%''

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78GZBwx%"%"&(4 "\$' | 567689:2 ;<=:;<;O>:7 8<? @8<8A6O6<8%+;4"2%"&'

dH2 - na ic" t(HI Ya' #。 NCSKEW KZ | 2kj r l m, yXU> ~ CZO2hJ op
qr Z | 。

%"' & , z * + N DUVOL

$$DUVOL_{i2} = D < U n_u - \&' \sum_{down} W_{i2}'' / n_d - \&' \sum_{up} W_{i2}'' v \quad \% !'$$

dH2 n_u % n_d' - na ia' c; , y 80150 < 8; 74285 #T.m219L 52423764y X605666
=

. F* >a ~ CZ | 2hJ opqr ZO。

"4L&5&j kl mC'b&} HZB

Gp?b&ST7v^b2a,; <L&5&j kX; 4: j kl maxy。 %] Gp?b&ST*
+ | ,J 4Kw+O2kj r 4: ZB<) 3ZDq2osa=x / O4L&5&49=B2' # uCL&
5&j kl mCZn。 ni >] O%"%"\$' u&iv au_2c q24: } ~ | (Gp?b&ddJ 4K?h
% OPACITY' WX; 4: ab&} HZB ~ C2 - 42j kl mCa QB。

$$OPACITY_{i2-\&} = 8G7\% DACCR_{i2-\&}' + 8G7\% DACCR_{i2-"}' + 8G7\% DACCR_{i2-\#}' \quad \% ('$$

dH2 Gp?b & dd% DACCR' a G_a HA% W; <67' I [%&vp。

#4] UIYj kl mC'nJ XB?

! 9>] O%"%"\$' u&iv awx 2c g} v5ax # I [%&' 2/pS ~; SeC R" 2&] Uh9I <
=j k 3DyEaJ 6* + \. 2g & , R" [* [Q&w4: c2j kQWa* +。 a < R"h & , R"a +
Kg\$ 2N3c % h & ? ~ 2 9g9u_A

	: >	; i
	NCSK	T%#'
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	SYN	T%)'
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E	NCS	" I (\$ NCSKEW
	DUV	" I (\$ DUVOL
	I)! ^/XGz(()! ^/X?E
	S	4: c; ' , yXay6E
		4: c; ' , yX! K
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		4#
		(391 ' ; Wb
	6	5(6' ; Wb

2>3 ^_ {
 - GvE c&... OO% "%&& ' u#iv \, LZ O% "%&& ' u#v O% "%&&(' awx 2Jc
 %&;) &; cI

$$CR_{i2} = \alpha + \beta INFO_{i2-\&} + \dots$$

dH2R &nJopqr INFO Q&stj k... 2 ' ... PARTY Q&I
 SYNCH Q&] U Yj kl mC2+ GRADE Q&f z E Jj k mC
 - GvFx d! Mj kl mCGnJon... a^5? G! [...] 7 2UCX,
 &; , q

$$CR_{i2} = \alpha + \beta_1 D_{i2-\&} + \beta_2 \dots + \gamma CV_{i2-\&} + \dots$$

$$R_{i2} = \alpha + \beta_1 A_{i2-\&} + \beta_2 \dots + \gamma CD_{i2-\&} + \gamma CV_{i2-\&} + \dots$$

mC C; - ... % O ... SYNQ ' a? d 2JccI
 - S # \beta ... [...] 7 = Sc ^ 5? G!
 FF Y ... Y] ... M% \ 2 = S_WGv, [a ^ ...]
 STW4 ... * I ... z] 4: a j kcdi FR] , Y% _ '
] ... > C O ... GRADEFA2 , S+KU; A; 2 j kcdi FR] ... Y2+K- ?
 < ... Qxy GDEF 2 , \$+<U A; 2 j kcdi FR] -
 K- ... g; [...] ! = ... X_ ... ? ? ... kcdi FR] - Ya4
 : a ZF Jj k... nO* on? i 4 ... on

78GZBwx%"%&(" "\$' | 567689:2 ;<=:;<;O>:7 8<? @8<8A6O6<8%+;4"2'"&'

k\YI 8W

2U3cdKs{ k - GK8W

&"h&# . " - . ZA; aX=? 3&h1G?. PR] .) , o(2X; nJ opqraJ) x
y NCSKEW h DUVOL a! K. " - , % !& h , % !(\$2J [E" M| 2GPdGh=) " % ""&^, u#^v aX
=? 3&R] ' - 1 <ly 6E. " - & . %&# h % . \$%# 2 m6U4: anJ opqr Sc' | aEF.
NCSKEW h DUVOL a 36897;< h EI689O8< 1G! #O# % . \$!! h % . \$!' 2^9" [2&m, [4nJ opq
raDEcU2zQ- q< .

|) j k l mCxy? ~a1G! # x k 2Mp % . &2 v | [4j k l mCaDEyM9Y(C2B
ef [aca . 1G! #c VIF K&m. ZA; ? ~MSc?I asI 25?I m.

b2 cdKs{

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SYNCH	"! !""%	, % . ""^)	% . ' &'	, % . &\$ \$, " . (&%	& . !^\$
GRADE	&" ^&^	" . %#(% .)(!	"	&	!
DTO	"! !""%	, (. ^)	!& . ' &"	, % . !)	, &)% . #""&	\$% . ^' \$
SIGMA	"! !""%	% . %^&	% . %"(% . %)#	% . %#)	% . &!(
RET	"! !""%	% . %%\$	% . %&^	% . %&&	, % . %#!	% . %(%
LEV	"! !""%	% . !^"	% . "&#	% . !^)	% . %("	& . %#)
ROA	"! !""%	% . %#"	% . %)&	% . %#"	, % . ""(#	% . &' ^
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> 1 n* 8W
 5 st j k op) , o(20C7; <L&5
 O yZ <] UI NC J al mC GRADE2d, q! 7
 k l mC q r &—d#. B/W{ 2cpBd)
 A (O&) q r F N! t) %.'# & h %.%^%)
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b 4 2 z 3

A ;	%&'	%''	%#'	%!'	%('	%)'
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9# S	, &.#%! % ^{***}	, &."\$\$ & ^{***}	, %.' \$' " ^{***}	, %.' '! ' ^{***}	, &. ! # ' \$ ^{***}	, &. # ' % & ^{***}
	%%. &#!)'	%%. &&(' '	%%. &"& ('	%%. &! \$'	%%. ""#'	%%. &! ^'
Year	pB	pB	pB	pB	pB	pB
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6U;	&\$ "\$!	&\$ "\$!	"! !""	"! !""	&" ^&^	&" ^&^
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j k 5LaGAm~2%&"#M\$Y"q[aI KZ[23qz] 4: cdO2; a、Y<Bya42j
k。Z\BO1“, j kcd- HE 82GH7L&j k 202; az] 4: I Kj kcd7' { +ynJ
opqr aeW/O。d- 2' mOj k t C2e +] UJ 6OuKB2(S=<BbB\$B?I YBC
%%mm\$(、R_! ZBCO' 2 hoeWXA GQP(h\Kh n%%{ 3GQ] \P(+q、O4q
r pB/OO' 2%&] UnG[amOj k : - I YBC\$(* [: - &* 1bqr ZB1B#M3c
YeW^cJ 6Hv, ei 7R(S=) r j k Ht a_ ' ? 2%&v | . Pz、monF ^、i /Oj k
Ht - F+md#。4ei j k。FgamOj k OuLMeb<5\。nG[3ea4: j k cYe
i 4- nJ 2%&4: nJ opqr MgUW。F- 2' f ZFJ t C2) r f Z ~Si F 2wdJ 4T<
j kcdI _9- O4aGz G! cGzI Ycd、n* VyA+cd、j karu?E=O) r GZ 2
} xVfZ- '。f ZFJ, c^; a1G_ ' - ' x&A4z] 4: aj kcd9- , cv | . Pz、
L&z h' &zOj k Ht a9- 41_i ax1ar 2。

; GNOF

u&vW+ X2@\=5E E *4 R" 89;F<? B26 R;90?' <6R B26;9M 8<? <6R B6787uWv4W;F9<80 ;K .<8<:>80 =;<;<O>:72%%) 2\$%'' '^, "\$"4

u"v[=++ZQO= [2X=XO+H d4 @89T68 \VF>?>M226?A<A28<? :987267uWv4 Q26 0069>:8< =;<;<O>: 56L>6R 2\$\$\$2%%(' '\$\$\$, &%"&4

u#v5Z@=5 H4 58b;<80 87768SI 9:6 O;L6O6<87 R:82;F8 <6R7uWv4 Q26 0069>:8< =;<;<O>: 56L>6R 2\$\$\$# 2##(' '&&&', &&#%4

u!vX== J d4 @89T68 :987267 8<? >K;908b;<80 8L808<:267uWv4 Q26 56L>6R ;K =;<;<O>: EBF?>67 2\$\$\$' 2(%!' '^!&, ^(\$4

u(v*OZ d d2 ZCOX W H ZOR4374' BZ1-O1TfOTr7. 762804OO25O83Tm19. O9999856. 589999TD(ZO. 4374' BZ1-O1TfOTr7. 762804OO28OO25O83Tm19. O9990(+)Tj O. 66250

