

ŽŌ, ÌƒĐ[ƒ“, ÌŒŽŠz, đ<), ß, éƒ, ƒƒƒ<

Žx•¥, Ì“à—e

Žx•¥ŠúŠŌ

ŽŌ—¼‰Ši

”N—!

ŒŽŠz, ÌŒ ãŒÀ

“a<à, ÌŒ ãŒÀ

ŒŽŠz

ƒĐ[ƒ“, Ì“à—e

“a<à

Œ»!Ý‰Ši

—Œ•¥—~“§

ŽÀIs

4

\$2,400,000

9.00%

\$70,000

\$300,000

\$50,000

\$390,761

\$2,009,239

\$390,761

ƒZƒ<

’²®ƒZƒ<

§—ñƒZƒ<

Œ“KƒZƒ<

Œ“K’²®ƒZƒ<

“ü—Íƒƒ Ì[ƒ^

Žx•¥ŠúŠŌ	4	1	ŒŽŠz <= ŒŽŠz, ÌŒ ãŒÀ
ŽŌ—¼‰Ši	\$2,400,000	1	ŒŽŠz >= 0
”N—!	9.00%	0	“a<à <= “a<à, ÌŒ ãŒÀ
ŒŽŠz, ÌŒ ãŒÀ	\$70,000	1	“a<à >= 0
“a<à, ÌŒ ãŒÀ	\$300,000		

ŒŽŠz \$50,000

ƒĐ[ƒ“, Ì“à—e	
“a<à	\$390,761
Œ»!Ý‰Ši	\$2,009,239
—Œ•¥—~“§	\$390,761

{Solver-Define? "D16";"F10..F13";"OFF";;;2}

Šİ-{"I,È'¹%vŒvŽŽ

,±,İ¹%vŒvŽŽ',İf,ff<,Ä,İ A »'Œ—Ē,Æ
aŽm—p—XŽq,Æ•w İ—p—XŽq,İŠ,,İ ŠŒÄ,à,Æ,Ä
—¼ŽÖ,İ—~%v,İ ŒŒv,đ Ä'ä,È,·,é,½,ß,İ »'Œ—Ē,đ
< İ,ß,Ü,· İ B

ŽÄIs

fZf<

'² ®fZf<

Š-ñfZf<

Ä"KfZf<

Ä"K/'² ®fZf<

•w İ—X	5,000
İ aŽm—X	4,000
İ ŒŒv"İ",ŒÄ İ "	9,000
•½<İ'P%ö	\$2,000
'İ", ä	\$18,000,000
", äŒ' %ö	\$12,000,000
'e—~%v	\$6,000,000
İ aŽm—X,İ"İ",,đ 4,500ŒÄ,Ü,Ä,È,·,é	1
•w İ—X,İ"İ",,đ 65 İ "E"ä,È,·,é	1
İÄ'á 750—œ%~,İ—~%v,đ, , °,é	0

{Solver-Define? "C8..C9";"C18..C20";"On";C16;Max;1;

}

Æø—!“I,È)¶ŽY,İ,½,ß,İ¶¶ŽY—Ê,ð<□,ß,éƒ,ƒƒƒ<
'áfJf—fŠ ¶ [¶ Aãó%è ¶ A<—“û,İ,RŽÍ—P,İƒpf“,ðŽă—I ¶ »•i,Æ,·,éƒpf“0z.ð
,a, ,è,Ü,· ¶ Bƒpf“,İ ¶ »‘¢,©,ç ¶ ¶,¶,éŽû“ü ¶ AŽx o ¶ A—~%v,ð'2 ¶ ®,µ,Ê
, ,ê,İ,Ê,è,Ü,¹,ñ ¶ B ¶ »‘¢,İ ¶ Š—ñ ð ðÆ ð,ð—ž,½,µ,Ê,a,ç ¶ A—~%v,İ—†Æv
,a—Ăă,Ê,Ê,é,æ,ı,Ê ¶ A3ŽÍ—P,İƒpf“,»,ê,¼,ê,İ ¶ »‘¢” ¶ ,ðÆ^,ß,Ă
,,¾,¾,¢ ¶ B

¼,İ ð Ĩ

ŽÀİs

$f p f^{\prime \prime}, \ddot{z} i-\dot{p}$	$f J f \rightarrow f \ddot{S} \uparrow [f p f \quad \ddot{a} \circ \% \ddot{e} f p f^{\prime \prime}$	$\leftarrow \ddot{u} f p f^{\prime \prime}$	$\rightarrow \ddot{\ddot{E}} v$
$\ddot{\$			

¶ Š—ñ ð ðÆ ð

1	'áfJf—fŠ ¶ [ƒpf“,İ ¶ »‘¢” ¶ ”,İ30000” ^È ð ã
0	ãó%èƒpf“,İ ¶ »‘¢” ¶ ”,İáfJf—fŠ ¶ [ƒpf“,İ1.5”{^È ð ã
0	<—“ûƒpf“,İ ¶ »‘¢” ¶ ”,İáfJf—fŠ ¶ [ƒpf“,İ2”{^È ð ã
1	,İ,x ¶ »‘¢ŽžŠÔ,İ—†Æv,İ60000ŽžŠÔ^È%°

{Solver-Define? "C11..E11";"B21..B24";"On";F18;"Max";1}

<i>fZf<</i>
' ² ⌚®fZf<
⌚š-ñfZf<
Ä"KfZf<
Ä"K/' ² ⌚®fZf

ŠÈ'P,È"Šw-â'è,Ìf,fff< | f,fff<1

,±,ìf,fff<,l AŽY,İZ®,İx,ð< ,ß,Ü,· B

x^2 - 4 = 0

ÓÃpÜ2,Ö

“Š,ì,ì•½•û^a,ì +2 ,Æ -2 ,É,È,é,í,,Ä,· B

fZf<

'²®fZf<

š-ñfZf<

Ä“KfZf<

Ä“K/'²®fZf<

0

0

X^2 - 4 = 0

f,fff<2

f\<fo [,l uÄ“K%oð v,ð'T,μ o,·,±,Æ,à,Ä,«,Ü,· B

,±,ìf,fff<,Ä,İŽY,ì¼ ü,Æ<È ü,İÆð“,ÄY,ìÄ'â'l,ð

< ,ß,Ü,· B

Curve 1: A = (1 - Z)^2

Curve 2: B = 10Z + 1

Æð“,Í2,Â, ,è,Ü,· Bf\<fo [,İŽY,ì š-ñðÆ,ðŽg,Á,Ä

Æð“,ìÄ•W,ð'T,μ o,μ,Ü,· B

A - B = 0

ŽÀIs

fZf<

'²®fZf<

š-ñfZf<

Ä“KfZf<

Ä“K/'²®fZf<

A

0

B

11

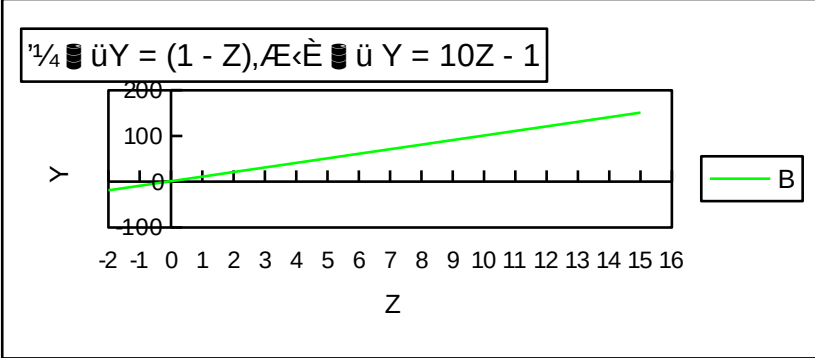
1

0

1

Z

A - B = 0



Z	A	B
-2	9	-19
-1	4	-9
0	1	1
1	0	11
2	1	21
3	4	31

4	9	41
5	16	51
6	25	61
7	36	71
8	49	81
9	64	91
10	81	101
11	100	111
12	121	121
15	196	151

{Solver-Define? "C14";"C15";"Off";;;2}

{Solver-Define? "C34";"C35";"On";C36;Max;2}

1

" „ ã-Ú•W, ìŠ,, è“- , Ä, ì' ² ¨ ®
 %°, ì\, Í, , é%ĩŽĐ, ì“Ĉ-ú- {Žx•, ì” „ ã-Ú•W, ð•\, μ, ½•\, Ä, • † B
 ” „ ã-Ú•W, ð ¨ Ý'è, μ%oc/ÆŠ~“® , ðŽn, ß, Ä, ©, ç5f-ĈŽ, a, ½, ç, Ü, μ, ½, a ¼, ì ¨ ð
 "N“x—, É-Ú•W, aB ¨ ¬, Ä, «, é, æ, ¨ Še'n<æ, ì” „ ã-Ú•W, ìŠ,, è“- , Ä, ð
 '² ¨ ®, μ, È, ¨ , ê, Ì, È, ç, È, È, è, Ü, μ, ½ † B ¨ ðĈ ¨ , ð ¨ Š-ñfZf<, Æ, μ, Ä
 'è<, μ † A ¨ Ä“KfZf<, ðŽW'è, ¹, , † A•j ¨ ¨ , ì%ð“š, ð—v< † , , , é, ±, Æ, É
 , æ, Ä, Ä † Af\ f<fo † [, Í, j ¨ ¨ , ì%ð“š, ð ¨ o, μ, Ü, • † B, ±, ê, ç, ì%ð“š, Í † A
 , » , ê, ¼, ê~Ü, È, Ä, ½-Ú•WŠ,, è“- , Ä, ì'g, Ý ¨ †, Í, ¹, Ä, , è † A ¨ ðĈ ¨ , ð
 -ž, ½, μ, Ä, ç, Ü, • † B, ³, ç, É%ð“š, ð'T, μ, ½, ç ¨ ê ¨ †, Í † A † qf\ f<fo † [¨ ŽÄIs
 %ðð“š † rf_fCfAf ¨ fOf{fbfNfX, ì † qŽÄ ¨ s(S) † r, ð%Ÿ, μ, Ä, , ¾, ³, ç † B

fzf<
'² ¨ ®fZf<
¨ Š-ñfZf<
¨ Ä“KfZf<
¨ Ä“K/'² ¨ ®fZf<

'P'É † F ¨ ç	ŠJŽnŽž '² ¨ ®ĈĈă , Tf-ĈŽ , Tf-ĈŽ Žû%v					'² ¨ ®ĈĈă, ì 'B ¨ —
'n<æ	'² ¨ ®Šz	" „ ã-Ú•W	" „ ã-Ú•W	" „ ã-Ú•W		
-kŠC“¹	\$0	\$28,756	\$28,756	\$11,982	\$15	0.0013
“Ĉ-k	\$0	\$49,806	\$49,806	\$20,753	\$20	0.0010
-kŠÖ“Ĉ	\$0	\$2,787	\$2,787	\$1,293	\$2	0.0012
¨ é<Ê	\$0	\$16,591	\$16,591	\$4,977	\$4	0.0007
“Ĉ<ž	\$0	\$35,314	\$35,314	\$14,714	\$17	0.0011
¨ ç—t	\$0	\$16,296	\$16,296	\$8,013	\$6	0.0007
¨ _“p ¨ ì	\$0	\$71,644	\$71,644	\$29,852	\$29	0.0010
¨ b ¨ M%oz	\$0	\$106,695	\$106,695	\$44,456	\$34	0.0008
¨ †Ĉv	\$0	\$327,890	\$327,890	\$136,039	\$126	

¨ Š-ñ ¨ ðĈ ¨

1	+ -kŠC“¹%>= (-kŠÖ“Ĉ%*1.05)
1	+ -kŠÖ“Ĉ%>= (“Ĉ<ž%*1.07)
1	+ “Ĉ<ž%>= (“Ĉ-k%*1.16)
1	+ “Ĉ-k%>= (¨ _“p ¨ ì%*1.001)
1	+ ¨ _“p ¨ ì%>= ¨ b ¨ M%oz%
1	+ ¨ b ¨ M%oz%- ¨ ç—t%<=0.03
1	+ ¨ b ¨ M%oz%- ¨ ç—t%>=-0.03
1	+ ¨ b ¨ M%oz%>= ¨ é<Ê%
0	+ -kŠC“¹%>=1.13
1	+ -kŠC“¹%<=1.3
1	+ “Ĉ-k\>=0
1	+ -kŠÖ“Ĉ\>=0
1	+ ¨ é<Ê\>=0
1	+ “Ĉ<ž\>=0
1	+ \$ ¨ ç—t\<=0
1	+ ¨ _“p ¨ ì\>=0
1	+ ¨ b ¨ M%oz\<=0
1	+ '² ¨ ®Šz ¨ †Ĉv\=0

f\ f<fo † [, Í ¨ ðĈ ¨ , ð-ž,
 , •%ðð“š, ð20ĈĈĈĈĈ ¨ ã, à'
 , μ ¨ o, μ, Ü, • † Bf\ f<fo †
 , ðŽÄ ¨ sĈĈă, É•\ž, ³, ê, é
 %ðð“š, ì't, ©, çŽ©•a, ì—v
 < † , É ¨ †, Ä, ½%ðð“š, ð'l'ð
 , Ä, «, Ü, • † B
 , , » , ç, † Af\ f<fo † [, Í
 Žè“®, ÄfVf~f...fĈ † [f
 f“-â'è, ð%ðð, •û-@, Ä, Í
 'T, μ ¨ o, ¹, È, ç%ðð“š, ð'T
 , μ ¨ o, , , Í, , Ä, • † B

{Solver-Define? "D16..D23";"C27..C44";"Off";;;3}

$\frac{1}{2}$

Γ

[

)

∇f^\sharp



3,3,5,É ♀ A
3

$fzf \prec$
$$^2 \text{ } \textcircled{R} f Z f <$$

§-ñfZf<

Å“KfZf<

Å“K/'² º®fZf<

☞ §-ñ  ðŒ 

```
{Solver-Define? "F14..F17";"B22..B30";"On";F19;Max;3}
```


”N,²,Æ,lfLffbfVf...ftfD[

Žx o i i Å^øĖã i j

,P”N–Ú

,Q”N–Ú

,R”N–Ú

,S”N–Ú

Ž’–{fRfXf fRfs i [c@	\$500,000			
%oC<Æ”i—p fRfs i [—pŽ†	\$7,920	\$7,920	\$7,920	\$7,920
fJ i [fgfŠfbfW	\$34,650	\$34,650	\$34,650	\$34,650
fT i [frfXĖ_—ñ—č	\$4,356	\$4,356	\$4,356	\$4,356
Žx o ſ†Ėv	\$546,926	\$46,926	\$46,926	\$46,926
Ž’–{—~“¾ ÅŠz T œ	\$0			
%o°Žæ,è%oč Ši				\$0
%oC<ÆŽû%o Ė,%oč ž<p”i,i Å<à”ď“i•a	\$42,500	\$42,500	\$42,500	\$42,500
<ÆŽÒ,É—Š,ñ,¾ ê†,lf	\$99,000	\$99,000	\$99,000	\$99,000
Žû“ü†Ėv	\$141,500	\$141,500	\$141,500	\$141,500
Å^øĖã ſ ³ —i fLffbfVf	(\$405,426)	\$94,574	\$94,574	\$94,574
ſ ³ —iĖ»Ÿ%oč’l	(\$157,040)			
“à•”Žû%ov—’l	-15.93%			

“à•”Žû%v—! ,đŽg,Á,½Šé<Æ”fŽû,ìf,fff<
,é%oiŽĐ,đ”fŽû,·,é,±,Æ,É,È,è,Ü,μ,½ † B1%o5 ■ ç-œ%o~,đ3”N`È ☒ ā,©,¯,Ä
Žx•¥,ç,Ü,· † BŠe”N—,ÉŽx•¥,α<àŠz,í † AÆ³<à,ì—†Æv<àŠz,¹1%o5 ■ ç-œ%o~
,É,È,è,³,ì,·,ê,î 4 ■ ç-œ%o~,©,ç 6 ■ ç-œ%o~,ìŠÔ,Ä,ç,,ç,Ä,àŽx•¥,α
,±,Æ,ª,Ä,«,Ü,· † B-ç•¥,ç,ìÆ³-{àŠz,ì—~—! ,î1”N-Ú,ìŠJŽnŽž,©,ç1”N
,É,Ä,«12 † “,ÉÆ© ☒ Ĭ,à,ç,ê,Ä,ç,Ü,· † B%o°,ÉŽ! ,μ,½%oc<Æ—~%ov,đ ☒ ¶,Ý ☒ o,³
,È,¯,ê,î,È,è,Ü,¹,ñ † B
f\ f< f o † [,đŽg,Ä,Ä † A“ŠŽ”,ì“à•”Žû%v—! ,đ—Ä’â,É,·,é,æ,α,ÈŠe”N“x—
,ìŽx•¥Šz,đÆ^,ß,Ä,,¾,³,ç † B

 Å—I	34.00%
N—I	12.00%

,P''N-Ú
,Q''N-Ú
,R''N-Ú

	Žx•ŸŠz,Í	Žx•ŸŠz,Í
Žx•ŸŠz	4 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32	6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32
\$40,000,000	1	1
\$40,000,000	1	1
\$40,000,000	1	1

“à•”Žû%ov—! 29.34% ±œv

0 Žx•¥Šz,ì}‡Æv,í

"N Žc,Žx•ŸŠz—~Ÿ%oc<ÆŽŮ“üf Š“¾Åà						
1###\$40,000,000###\$35,725,000###\$6,026,500						
2###\$40,000,000###\$40,012,000###\$9,116,080						
3\$70,000,000\$40,000,000\$8,400,000\$44,813,440###						
4\$30,000,000\$0\$3,600,000\$50,191,053###						
5\$30,000,000\$0\$3,600,000\$56,213,979###						
6\$30,000,000\$0\$3,600,000\$62,959,657###						
7\$30,000,000\$0\$3,600,000\$70,514,815###						
8\$30,000,000\$0\$3,600,000\$78,976,593###						
†Æv\$120,000,000###						

```
{Solver-Define? "F15..F17";"G15..H17;G19";"On";D19;Max;2}
```

<i>fZf<</i>
' ² ⌘®fZf<
⌘s-ñfZf<
⌘Å“KfZf<
⌘Å“K/' ² ⌘®fZf
“ü—Íff‡[f^

o^o

1%_o5⌘ç-œ%_o~^È⌘ã

⌘Å^øŒã
·¬ ¹ / ₄ ìÛ°
###
###
###
\$30,750,095
\$34,725,226
\$39,177,373
\$44,163,778
\$49,748,552
###