

hal 41

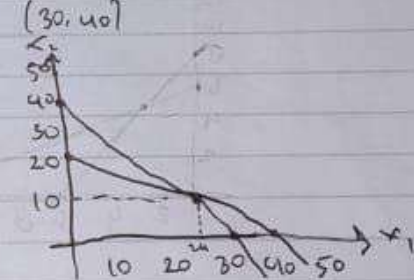
$$\begin{array}{l|l}
 1. & \begin{array}{l} 4x_1 + 5x_2 = 20 \\ 2x_1 + 6x_2 = 20 \end{array} \\
 & \begin{array}{l} 2 \\ 4 \\ \hline -14x_2 = -40 \\ x_2 = \frac{40}{14} \\ x_2 = 2,85 \end{array}
 \end{array}$$

$$\begin{aligned}
 2x_1 + 6x_2 &= 20 \\
 2x_1 + 6(2,85) &= 20 \\
 2x_1 + 17,1 &= 20 \\
 2x_1 &= 20 - 17,1 \\
 2x_1 &= 2,9 \\
 x_1 &= \frac{2,9}{2} \\
 x_1 &= 1,45
 \end{aligned}$$

$$\begin{aligned}
 x_1 + 2x_2 &= 40 \\
 4x_1 + 3x_2 &= 120
 \end{aligned}$$

$(40, 20)$

$$(30, 40)$$



2.	P.P I	P.P II	label
I	10	7	6
II	10	3	4
	100	42	

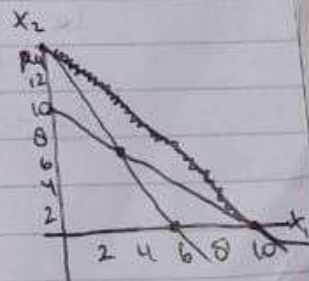
© Formulasi model

$$Z = 6x_1 + 4x_2$$

$$\text{Batasan } 10x_1 + 10x_2 = 100$$

$$7x_1 + 3x_2 = 42$$

$(10, 10)$   
 $(6, 14)$



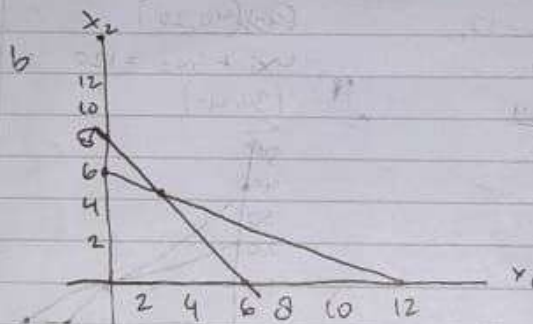
3.		$U_1 = 1$	$U_2 = 0$	harga
	I	8	1	0,05
	II	6	2	0,03
		48	12	

a. Formulasi model

$$z = 0,05x_1 + 0,03x_2$$

$$\text{Batasan} = 8x_1 + 6x_2 = 48 \quad (6, 0)$$

$$1x_1 + 2x_2 = 12 \quad (12, 6)$$



4.  $z = 0,05x_1 + 0,06x_2$

$$\text{Batasan} = 8x_1 + 6x_2 = 48$$

$$1x_1 + 2x_2 = 12$$

$$\begin{array}{r|l} 2 & 16x_1 + 12x_2 = 96 \\ 16 & 16x_1 + 32x_2 = 192 \end{array}$$

$$-20x_2 = -96$$

$$x_2 = \frac{96}{20}$$

$$x_2 = 4,8$$

$$1x_1 + 6x_2 = 12$$

$$1x_1 + 6(4,8) = 12$$

$$1x_1 + 28,8 = 12$$

$$1x_1 = 12 - 28,8$$

$$1x_1 = -16,8$$

$$x_1 = \frac{-16,8}{1} = -16,8$$

$$z = 0,05(-16,8) + 0,06(4,8)$$

$$= -0,84 + 0,288$$

$$= -0,552$$

if it is a will, there is a way



BARIS

$$z = 3x_1 + 5x_2$$

$$\text{Batasan: } 10x_1 + 2x_2 = 20$$

$$6x_1 + 6x_2 = 36$$

$$x_2 = 2$$

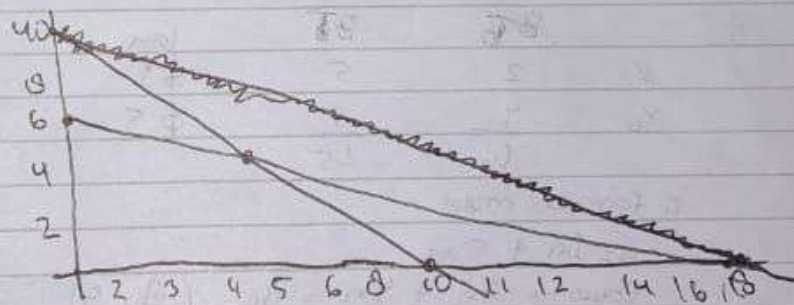
	DB	Jk	laba
$x_1$	2	8	400
$x_2$	6	10	100
	36	80	

1. formulasi model

$$z = 400x_1 + 100x_2$$

$$\text{Batasan: } 2x_1 + 6x_2 = 36 \quad (18, 6)$$

$$0x_1 + 10x_2 = 80 \quad (0, 40)$$



there is a will, there is a way

BO



$$\begin{array}{r|l} 2 & 8u_1 + 10u_2 = 80 \\ & 2u_1 + 0u_2 = 36 \end{array} \quad \begin{array}{r|l} 2 & 16u_1 + 20u_2 = 160 \\ 0 & 16u_1 + 45u_2 = 289 \end{array}$$

$$\begin{array}{r} -20u_2 = -128 \\ \hline -28 \end{array}$$

$$u_2 = 4,57$$

$$8u_1 + 10u_2 = 80$$

$$8u_1 + 10(4,57) = 80$$

$$8u_1 + 45,7 = 80$$

$$8u_1 = 80 - 45,7$$

$$u_1 = \frac{34,3}{8}$$

$$u_1 = 4,28$$

$$\begin{aligned} Z &= 400(4,28) + 100(4,57) \\ &= 1712 + 457 \\ &= 2.169 \end{aligned}$$

$$\begin{aligned} Z_0 &= 400(4,28) + 500(4,57) \\ &= 1712 + 2285 \\ &= 3997 \end{aligned}$$

8

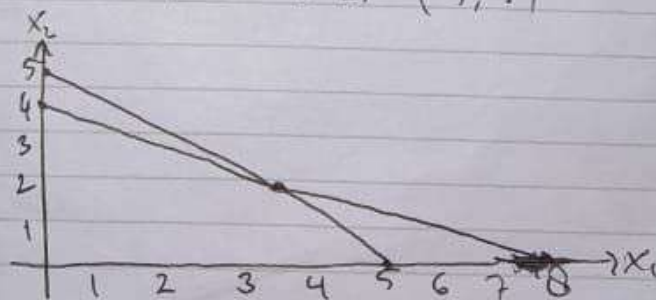
	BE	BT	labor
$x_1$	2	5	\$1
$x_2$	4	5	\$5
	16	25	

a. formulasi model

$$Z = 1x_1 + 5x_2$$

$$\text{Demand} = 2x_1 + 4x_2 = 16 \quad (8, 4)$$

$$5x_1 + 5x_2 = 25 \quad (5, 5)$$



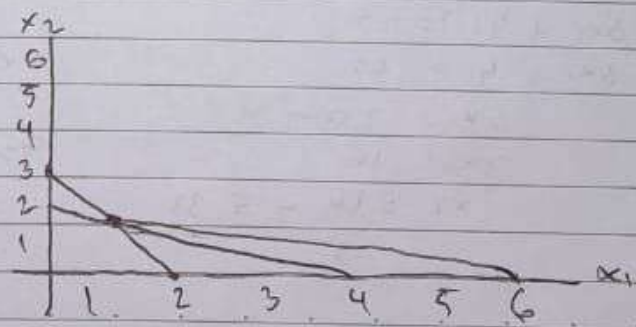
Where there is a will, there is a way

BEST

9.  $z = 3x_1 + 6x_2$   $z = 3x_1 + 6x_2$   
 $3x_1 + 2x_2 \leq 18$   $= 3(2) + 6(6)$   
 $3(2) + 2x_2 = 18$   $= 6 + 36$   
 $6 + 2x_2 = 18$   $= 42$   
 $2x_2 = 18 - 6$   
 $2x_2 = 12$   
 $x_2 = \frac{12}{2}$   $x_1 + x_2 \leq 5$   
 $= 6$   $2 + 6 \leq 5$

	Ansible I	Ansible II	Ansible III	Margin
$x_1$	3	1	2	80
$x_2$	2	2	6	50
	<u>6</u>	<u>4</u>	<u>12</u>	

$z = 80x_1 + 50x_2$   
 $3x_1 + 2x_2 = 6 \quad (2, 3)$   $2x_1 + 6x_2 = 12 \quad (6, 2)$   
 $x_1 + 2x_2 = 4 \quad (4, 2)$



Where there is a will, there is a way



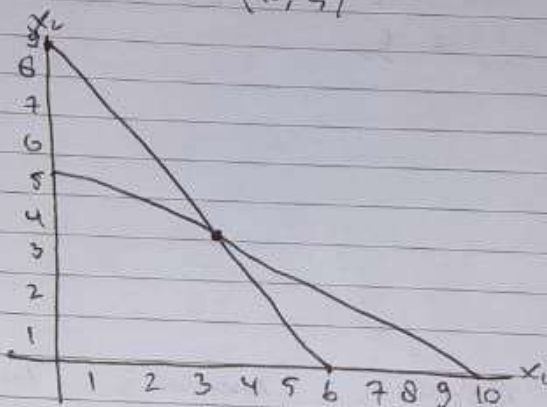
	DE	BP	lab
$x_1$	3	2	300
$x_2$	2	4	400
	18	20	

$$Z = 300x_1 + 400x_2$$

Restriksi

$$3x_1 + 2x_2 = 18 \quad (6, 9)$$

$$2x_1 + 4x_2 = 20 \quad (10, 5)$$



$$12. \quad Z = 300x_1 + 600x_2$$

$$3x_1 + 2x_2 = 18 \quad | \quad 3x_1 + 2x_2 = 18$$

$$3x_1 + 4x_2 = 20 \quad | \quad 3x_1 + 4x_2 = 20$$

$$-2x_2 = -2$$

$$x_2 = \frac{2}{2}$$

$$x_2 = 1$$

$$3x_1 + 4x_2 = 20$$

$$3x_1 + 4(1) = 20$$

$$3x_1 + 4 = 20$$

$$3x_1 = 20 - 4$$

$$3x_1 = 16$$

$$x_1 = \frac{16}{3} = 5,33$$

$$\begin{aligned} Z &= 300(5,33) + 600(1) \\ &= 1.599 + 600 \\ &= 2.199 \end{aligned}$$

A Champion is someone who gets up even when they can't

BOY



14.

$$\begin{array}{r|l} 3x_1 + 5x_2 = 150 & \times 4 \\ 10x_1 + 4x_2 = 240 & \times 5 \\ \hline & -38x_1 = -600 \end{array}$$

$$-38x_1 = -600$$

$$x_1 = \frac{-600}{-38} = 15,78$$

$$3x_1 + 5x_2 = 150$$

$$3(15,78) + 5x_2 = 150$$

$$47,34 + 5x_2 = 150$$

$$5x_2 = 150 - 47,34$$

$$5x_2 = 102,66$$

$$x_2 = \frac{102,66}{5}$$

$$= 20,532$$

$$Z = 50x_1 + 40x_2$$

$$= 50(15,78) + 40(20,532)$$

$$= 789 + 821,28$$

$$= 1.610,28$$

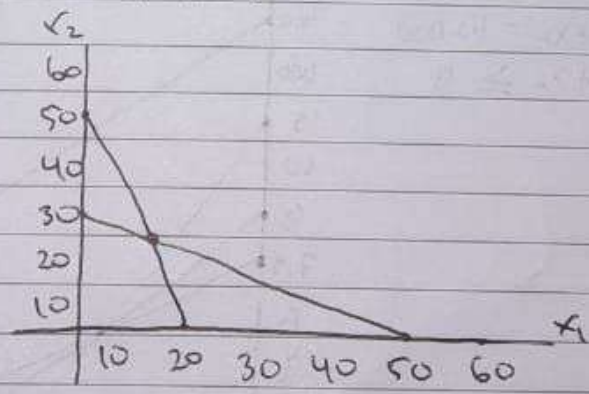
13.

	PK	JK	kgm
$x_1$	3	10	50
$x_2$	5	4	40
	150	200	

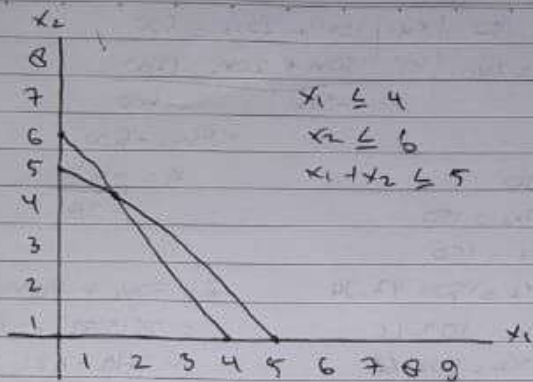
$$Z = 50x_1 + 40x_2$$

$$3x_1 + 5x_2 = 150 \quad (50, 30)$$

$$10x_1 + 4x_2 = 200 \quad (20, 50)$$



15.



16.

	P. Pen	P. Pel	labor
$x_1$	2	4	800
$x_2$	4	2	900
	30	30	

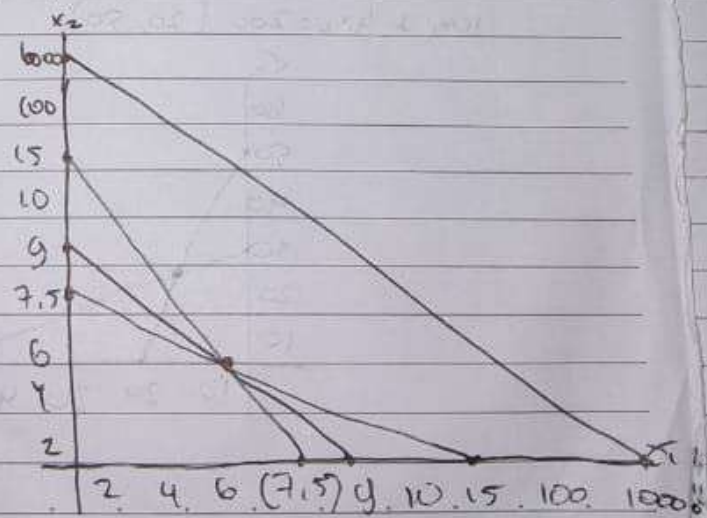
$z = 800x_1 + 900x_2$

$2x_1 + 4x_2 = 30 \quad (15, 7.5)$

$4x_1 + 2x_2 = 30 \quad ((7.5, 15))$

$x_1 + x_2 = 10,000$

$x_1 + x_2 \geq 9$





No.

Date

12.

	J. Per	J. Pen	10000
$x_1$	4	12	30
$x_2$	10	8	70
	80	112	

$$z = 30x_1 + 70x_2$$

$$4x_1 + 10x_2 = 80 \quad (20, 8)$$

$$12x_1 + 8x_2 = 112 \quad (9.33, 14)$$

$x_1$

20

14

10

8

6

4

2

0

0.33

2

3

4

5

6

7

8

9

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11

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