

# Penyelesaian Lengkap

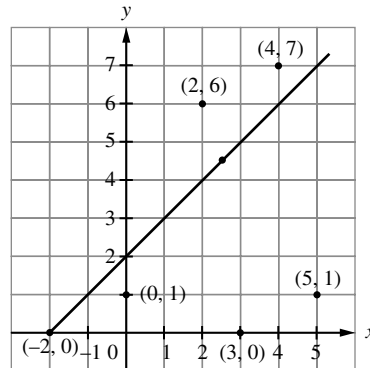
## Praktis 6

### Praktis Formatif

#### 6.1 Ketaksamaan Linear dalam Dua Pemboleh Ubah Linear Inequalities in Two Variables

- 1 (a) Katakan  $x$  = bilangan beg tangan dan  $y$  = bilangan beg duit  
Maka,  $10x + 5y \geq 100$  atau  $2x + y \geq 20$   
Let  $x$  = number of handbag and  $y$  = number of purse  
Then,  $10x + 5y \geq 100$  or  $2x + y \geq 20$
- (b) Katakan,  $a$  mewakili pesakit yang memerlukan bantuan oksigen di hospital A, dan  $b$  mewakili pesakit yang memerlukan bantuan oksigen di hospital B.  
Maka,  $a + b \leq 20$   
Let,  $a$  represents the number of patients who need oxygen aid in hospital A and  $b$  represents the number of patients who need oxygen aid in hospital B.  
Then,  $a + b \leq 20$
- (c) Katakan,  $a$  = bilangan murid dari Kelas 4A dan  $b$  = bilangan murid dari Kelas 4B.  
Maka,  $a + b > 6$   
Let,  $a$  = number of students from Class 4A and  $b$  = number of students from Class 4B.  
Then,  $a + b > 6$
- (d) Katakan  $x$  = bilangan botol pensanitasi tangan dan  $y$  = bilangan topeng muka  
Maka,  $7.5x + 1.5y \leq 100$   
 $15x + 3y \leq 200$   
Let  $x$  = number of hand sanitizers and  $y$  = number of face masks  
Therefore,  $7.5x + 1.5y \leq 100$   
 $15x + 3y \leq 200$
- (e) Katakan  $x$  = bilangan cendera hati berbentuk hati dan  $y$  = bilangan cendera hati berbentuk kunci  
Maka,  $4.5x + 3.5y \leq 140$  atau  $9x + 7y \leq 280$   
Let  $x$  = number of heart shape souvenir and  $y$  = number of key shape souvenir  
Then,  $4.5x + 3.5y \leq 140$  or  $9x + 7y \leq 280$
- (f) Katakan,  $a$  = bilangan kek batik dan  $b$  = bilangan biskut suji.  
Maka,  $10a + 18b \leq 86$  atau  $5a + 9b \leq 43$   
Let,  $a$  = number of batik cakes and  $b$  = number of sugee biscuits.  
Then,  $10a + 18b \leq 86$  or  $5a + 9b \leq 43$

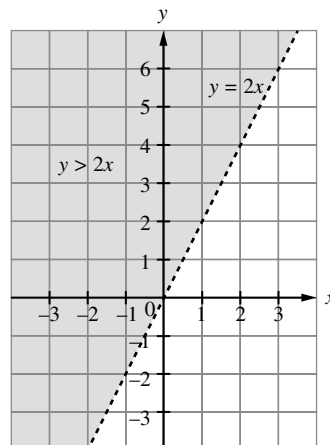
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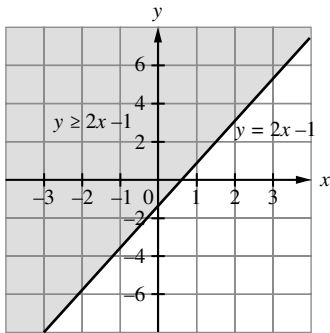
Titik	$y < x + 2$	$y = x + 2$	$y > x + 2$
$(-2, 0)$		✓	
$(0, 1)$	✓		
$(4, 7)$			✓
$(2, 6)$			✓
$(3, 0)$	✓		
$(5, 1)$	✓		

- 3 (a)  $y < -2x - 1$   
(b)  $y < -2x - 1$   
(c)  $y = -2x - 1$   
(d)  $y > -2x - 1$

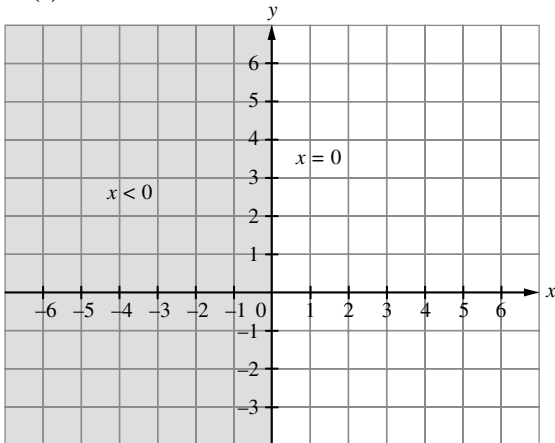
4 (a)



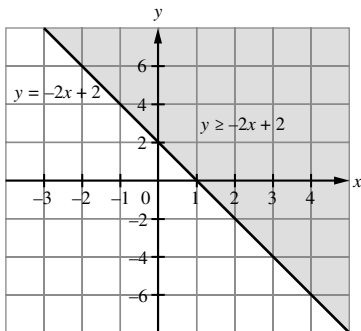
(b)



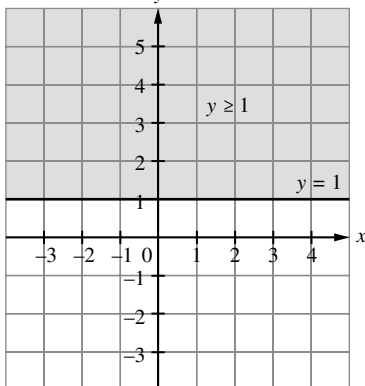
(c)



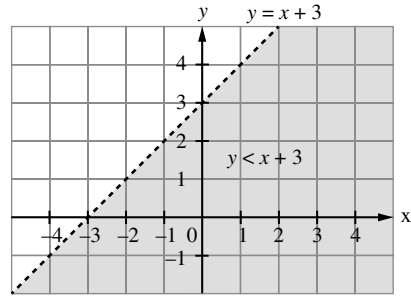
(d)



(e)



(f)



5 (a)  $y \geq \frac{x}{2} + 1$

(b)  $y < 2$

(c)  $x \geq -1$

(d)  $y < -2x + 2$

### 6.2 Sistem Ketaksamaan Linear dalam Dua Pemboleh Ubah

#### Systems of Linear Inequalities in Two Variables

1 (a)  $a + b \geq 160$

(b)  $b > \frac{a}{2}$

(c)  $a \leq 90$

(d)  $b < a$

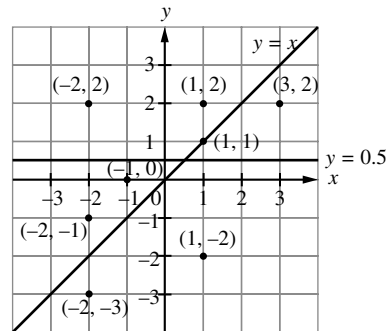
2 (a)  $y \geq x + 3$

(b)  $25y + 15x > 200$

(c)  $x + y \leq 15$

(d)  $x < 5$

3



(a) (1, -2) dan/and (-2, -3)

(b) (3, 2)

(c) (-1, 0) dan/and (-2, -1)

(d) (-2, 2), (1, 2) dan/and (1, 1)

4 (a)  $y > x + 1, y > 1, x < 2$

(b)  $y < x + 1, y < 1, x < 2$

(c)  $y < x + 1, y < 1, x > 2$

(d)  $y < x + 1, y < 1, x < 2$

(e)  $y > x + 1, y < 1, x < 2$

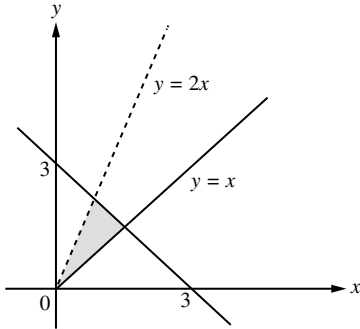
5 (a) (i) D (ii) A  
(iii) C (iv) B

(b) (i) C (ii) A  
(iii) D (iv) B

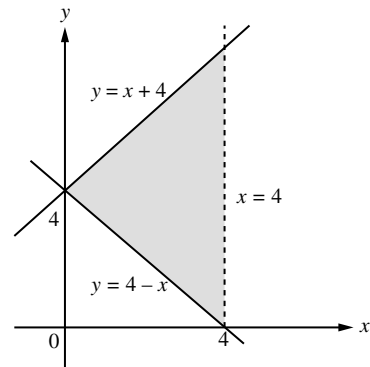
6 (a) X, W, R dan T  
X, W, R and T

(b) X, W dan V  
X, W and V

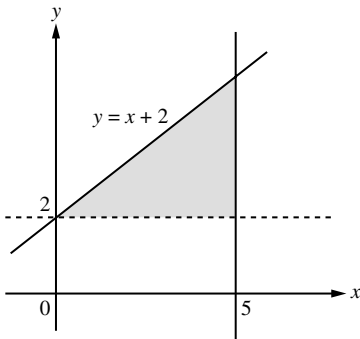
(a)  $y < 2x$ ,  $y \geq x$   
dan/and  $x + y \leq 3$



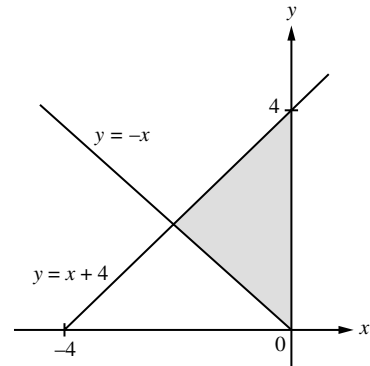
(b)  $y \leq x + 4$ ,  $y \geq 4 - x$   
dan/and  $x < 4$



(c)  $y \leq x + 2$ ,  $y > 2$   
dan/and  $x \leq 5$



(d)  $y \geq -x$ ,  $y \leq x + 4$   
dan/and  $x \leq 0$



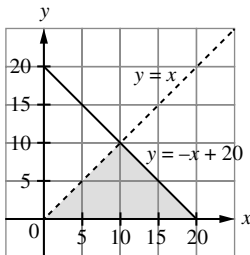
8 (a)  $y > -2$ ,  $y \leq x$  dan/and  $x \geq -1$

(b)  $y < x + 4$ ,  $y \geq -\frac{x}{2} - 1$  dan/and  $y > x$

(c)  $2y - x \leq 2$ ,  $x > 2$  dan/and  $x + y \geq 1$

9 (a)  $x + y \leq 20$  dan/and  $y < x$

(b)



(c) 6

(d) Buku nota tidak akan habis diberi kerana pelanggan yang datang pada hari minggu kurang daripada pelanggan yang datang pada hujung minggu, 10. Oleh itu, bilangan maksimum bagi pelanggan yang datang pada hari minggu ialah 9. Bilangan buku nota yang tinggal adalah sekurang-kurangnya  $20 - 9 - 10 = 1$

*Notebooks of Dory will not be finish given because the number of customers that visited on weekdays*

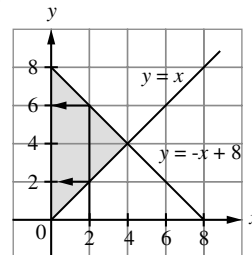
*is less than the number of customers that visited on weekends, 10. Therefore, the maximum number of customers that visited on weekdays is 9. The number of remaining notebooks is at least  $20 - 9 - 10 = 1$*

10 (a) Katakan,  $x$  = bilangan kawan yang diajak oleh Vicon dan  $y$  = jumlah kawan yang diajak oleh kawan Vicon.

Maka,  $y \geq x$  dan  $x + y \leq 8$ .

Let,  $x$  = number of friends invited by Vicon and  $y$  = total number of friends invited by Vicon's friends. Then,  $y \geq x$  and  $x + y \leq 8$ .

(b)



(c) Diberi bilangan kawan yang diajak oleh Vicon ialah 2, maka  $x = 2$  orang.  
 $2 + y \leq 8$  dan  $y \geq 2$   
Maka,  $2 \leq y \leq 6$ .

Oleh itu, bilangan minimum dan maksimum kawan yang boleh diajak oleh kawan Vicon ialah 2 dan 6.

Given that the number of friends invited by Vicon is 2 peoples, therefore  $x = 2$ .

$2 + y \leq 8$  and  $y \geq 2$

Thus,  $2 \leq y \leq 6$ .

Therefore, the minimum and maximum number of friends that can be invited by Vicon's friends is 2 and 6.

### Praktis Sumatif

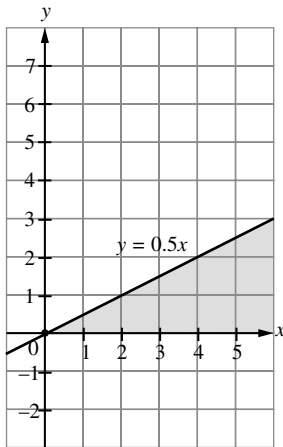
#### Kertas 1

- 1 C    2 C    3 C    4 B    5 A  
6 A

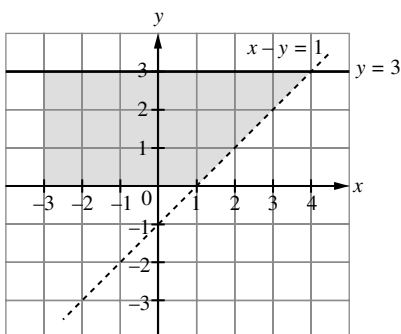
#### Kertas 2

#### Bahagian/Section A

- 1 (a)  $x \geq 2y$

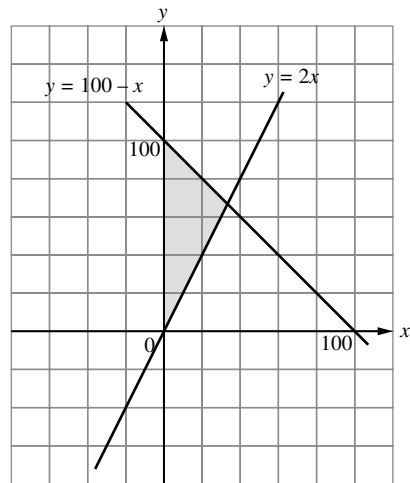


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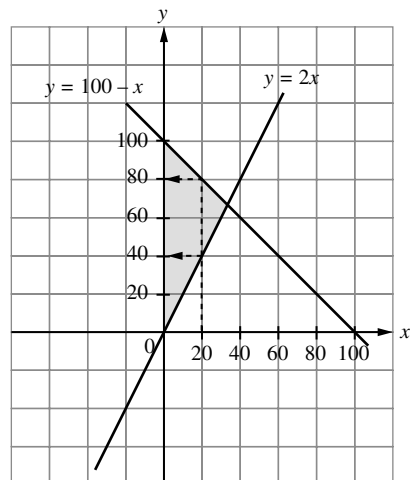


### Bahagian/Section B

- 3 (a)  $x + y \leq 100$ ,  $y \geq 2x$   
(b)



- (c) Diberi  $x = 20$ , minimum  $y = 40$ , maksimum  $y = 80$ .  
Given  $x = 20$ , minimum  $y = 40$ , maximum  $y = 80$ .



- (d) Melalui (a),  $y \geq 2x$ .

From (a),  $y \geq 2x$ .

Diberi  $x = 20 + 20 = 40$ ,

Given  $x = 20 + 20 = 40$ ,

$y \geq 2(40) = 80$ , minimum  $y$  ialah 80.

$y \geq 2(40) = 80$ , minimum  $y$  is 80.

$x + y \leq 100$

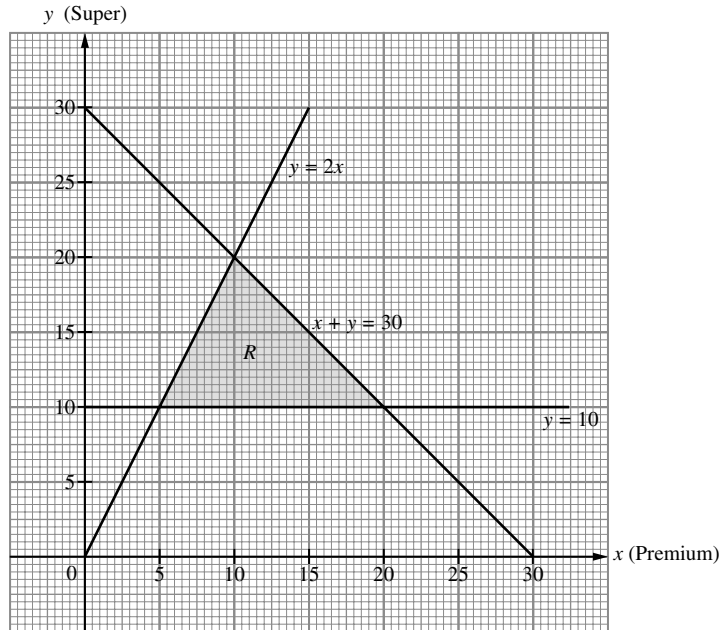
$40 + 80 > 100$

Maka, linear ketaksamaan di (a) tidak dapat dipenuhi.

Thus, linear inequality in (a) is not satisfied.

**Bahagian/Section C**

- 4 (a)  $x + y \leq 30$ ,  $y \geq 10$  dan/and  $y \leq 2x$   
 (b)



- (c) (i) 20  
 (ii)  $7 \leq x \leq 17$   
 (iii) Ya, sebab koordinat (10, 18) berada di dalam rantau berlorek.

- Yes, because coordinates (10, 18) is in the shaded region.*  
 (iv) Di/At (5, 10)  
 $5(\text{RM}100) + 10(\text{RM}80) = \text{RM}1\ 300$