

# Penyelesaian Lengkap

## PRAKTIS 6

### Kertas 1

1 Jawapan/Answer: D

Titik Points	$y = 5 - 2x$	Bandingkan koordinat-y dengan nilai y yang dicari <i>Compare the y-coordinate with the value of y found</i>	$y < 5 - 2x$
A(-1, 3)	$x = -1,$ $y = 5 - 2(-1)$ $= 7$	$3 < 7$	✓
B(1, 2)	$x = 1,$ $y = 5 - 2(1)$ $= 3$	$2 < 3$	✓
C(3, -1)	$x = 3,$ $y = 5 - 2(3)$ $= -1$	$-1 = -1$	✗
D(4, -4)	$x = 4,$ $y = 5 - 2(4)$ $= -3$	$-4 < -3$	✓

Jawapan/Answer: C

Titik Points	$y + 5x$	Banding nilai dicari dengan 10 <i>Compare the value found with 10</i>	$y + 5x \leq 10$
A(-1, 16)	$16 + 5(-1)$ $= 11$	$11 > 10$	✗
B(0, 12)	$12 + 5(0) = 12$	$12 > 10$	✗
C(1, 8)	$8 + 5(1) = 13$	$13 > 10$	✗
D(3, -6)	$-6 + 5(3) = 9$	$9 < 10$	✓

Jawapan/Answer: D

4 Pintasan-y/y-intercept,  $c = 4$

Ambil mana-mana dua titik: (0, 4), (5, 8)

Take any two points: (0, 4), (5, 8)

$$\begin{aligned} \text{Kecerunan/gradient, } m &= \frac{(8 - 4)}{(5 - 0)} \\ &= \frac{4}{5} \\ y &= \frac{4}{5}x + 4 \end{aligned}$$

Ketaksamaan kawasan berlorek:  $y > \frac{4}{5}x + 4$   
*The inequality of shaded region:*

Jawapan/Answer: B

5 Jawapan/Answer: B

Titik Points	$2x - y$	Banding nilai dicari dengan 6 <i>Compare the value found with 6</i>	$2x - y \leq 6$
A(3, 2)	$2(3) - 2 = 4$	$4 < 6$	✓
B(5, 2)	$2(5) - 2 = 8$	$8 > 6$	✗
C(3, -1)	$2(3) - (-1)$ $= 7$	$7 > 6$	✗
D(6, 3)	$2(6) - 3 = 9$	$9 > 6$	✗

Jawapan/Answer: A

7 Oleh sebab  $x > 1$ , maka pilihan D dikeluarkan.

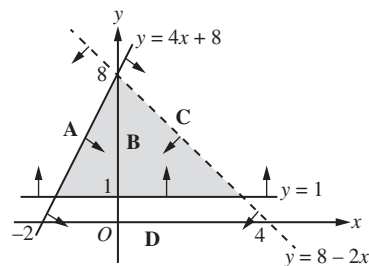
*Since  $x > 1$ , therefore option D is out.*

Titik Points	$y = 5 - x$	$y \leq 5 - x$	$2x - y$	$2x - y \leq 3$
A(6, 3)	$y = 5 - 3 = 2$ $3 \geq 2$	✗	$2(6) - (3)$ $= 9$ $9 \geq 3$	✗
B(4, -2)	$y = 5 - 4 = 1$ $-2 \leq 1$	✓	$2(4) - (-2)$ $= 10$ $10 \geq 3$	✗
C(2, 2)	$y = 5 - 2 = 3$ $2 \leq 3$	✓	$2(2) - (2)$ $= 2$ $2 \leq 3$	✓

Jawapan/Answer: C

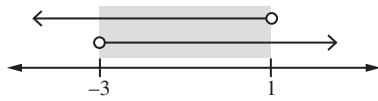
8 Jawapan/Answer: A

9



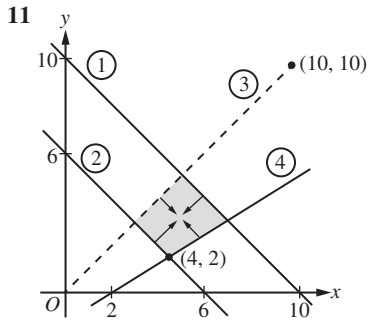
Jawapan/Answer: B

$$\begin{array}{ll}
 10 & x - 3 < 3 - 5x \quad \text{dan/and} \quad 3 - 5x < 18 \\
 & x + 5x < 3 + 3 & -5x < 18 - 3 \\
 & 6x < 6 & -5x < 15 \\
 & x < 1 & x > -3
 \end{array}$$



$$-3 < x < 1$$

Jawapan/Answer: D

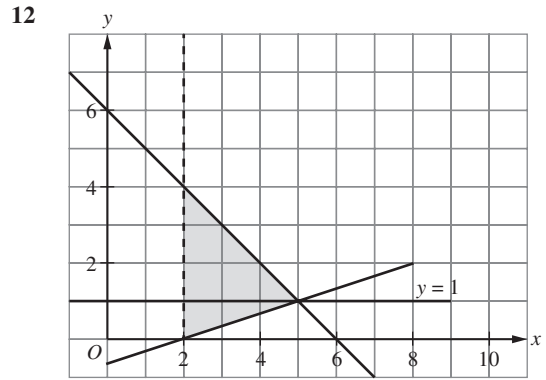


$$\begin{array}{l}
 \textcircled{1} \left. \begin{array}{l} m = -\frac{10}{10} \\ = -1 \\ c = 10 \\ y = -x + 10 \end{array} \right\} y \leq -x + 10 \\
 \textcircled{2} \left. \begin{array}{l} m = -\frac{6}{6} \\ = -1 \\ c = 6 \\ y = -x + 6 \end{array} \right\} y \geq -x + 6 \\
 \textcircled{3} \left. \begin{array}{l} m = \frac{10}{10} \\ = 1 \\ c = 0 \\ y = x \end{array} \right\} y < x
 \end{array}$$

Pilihan D dikeluarkan kerana pintasan-y ialah  $\frac{2}{3}$  tetapi garis lurus  $\textcircled{4}$  mempunyai pintasan-y bernilai negatif.

Option D is taken out because the y-intercept is  $\frac{2}{3}$  but straight line  $\textcircled{4}$  has a negative y-intercept.

Jawapan/Answer: C



Apabila/When  $y = 1, 2 < x \leq 5$

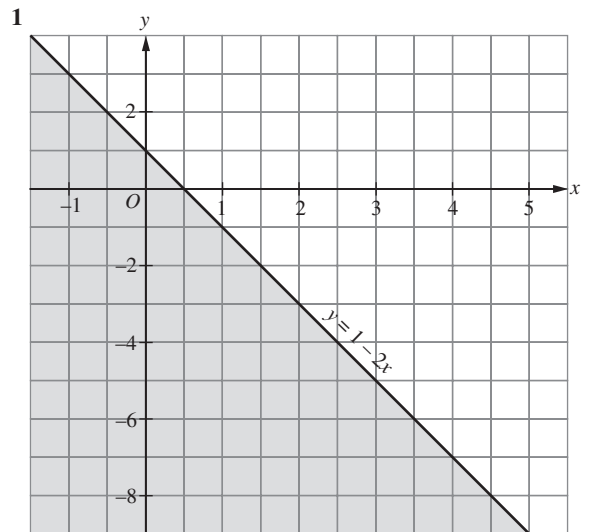
$\therefore$  Nilai integer minimum  $x = 3$

Minimum integer of  $x$

Jawapan/Answer: C

## Kertas 2

### Bahagian A



(0, 0), (4, -8) (mana-mana dua titik yang berada dalam rantau berlorek/any two points in the shaded region)

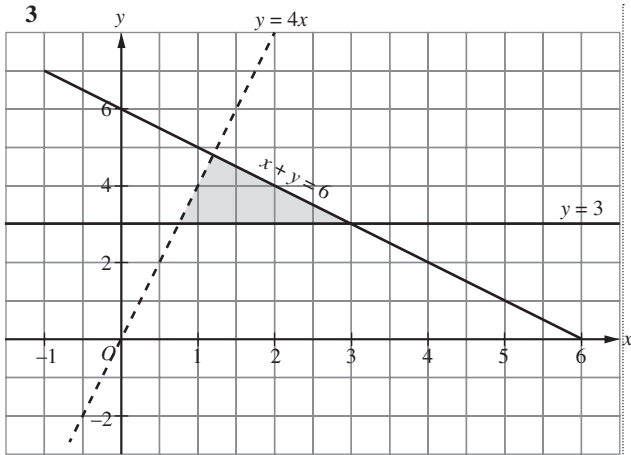
2 (a) Apabila/When  $x = 1, y = 3(1) - 1$   
 $= 2$   
 $\therefore 1 < 2$

(1, 1) memuaskan/satisfies  $y < 3x - 1$ .

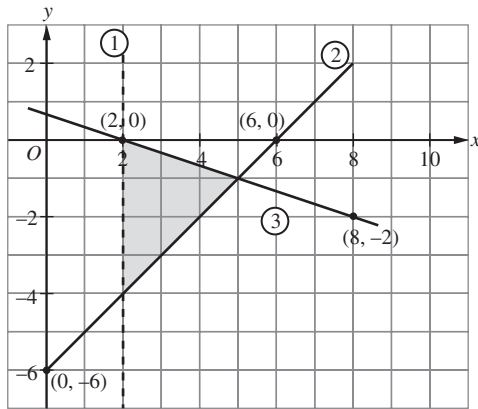
(b) Apabila/When  $x = -2, y = 3(-2) - 1$   
 $= -7$

$$\therefore 5 > -7$$

(-2, 5) memuaskan/satisfies  $y > 3x - 1$ .



- 4 Selepas pantulan pada paksi-x  
After reflection in the x-axis



Persamaan (1): Garis lurus selari dengan paksi-y.  
Maka,  $x = 2$ .

Equation (1): The straight line is parallel with the y-axis. Therefore,  $x = 2$ .

Persamaan/Equation (2):  $m = \frac{0 - (-6)}{6 - 0}$   
 $= 1$   
 $c = -6$

Maka/Therefore,  
 $y = x - 6$

Persamaan/Equation (3):  $m = \frac{-2 - 0}{8 - 2}$   
 $= -\frac{1}{3}$

Gantikan (2, 0) ke dalam persamaan  $y = -\frac{1}{3}x + c$

Substitute (2, 0) into equation  $y = -\frac{1}{3}x + c$

$$-\frac{1}{3}(2) + c = 0$$

$$c = \frac{2}{3}$$

Maka/Therefore,  $y = -\frac{1}{3}x + \frac{2}{3}$  atau/or  $3y + x = 2$

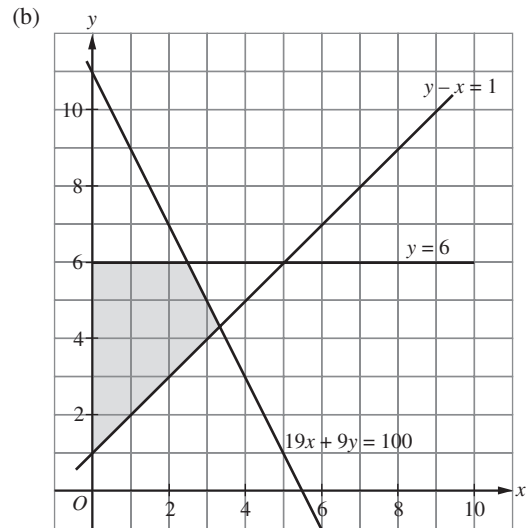
Ketaksamaan yang memuakan rantau berlorek:

The linear inequalities that satisfy the shaded region:  
 $x > 2$ ,  $y \geq x - 6$  dan/and  $3y + x \leq 2$

- 5 (a)  $x \geq 10$   
 (b)  $y - x \leq 50$   
 (c)  $x \leq 2y$   
 (d)  $x + y \leq 80$

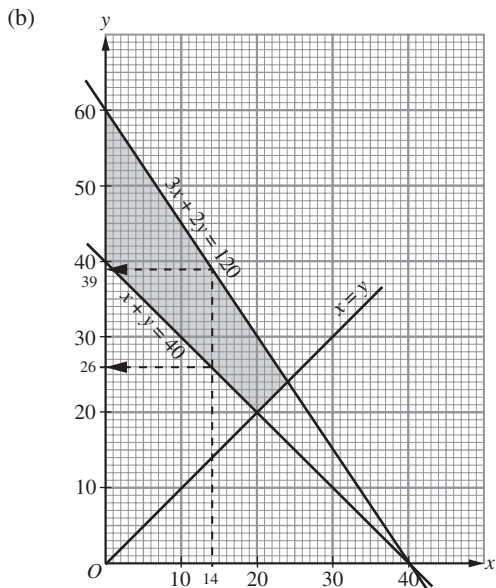
### Bahagian B

- 6 (a) I  $2.85x + 1.35y \leq 15$   
 $19x + 9y \leq 100$   
 II  $y - x \geq 1$   
 III  $y \leq 6$



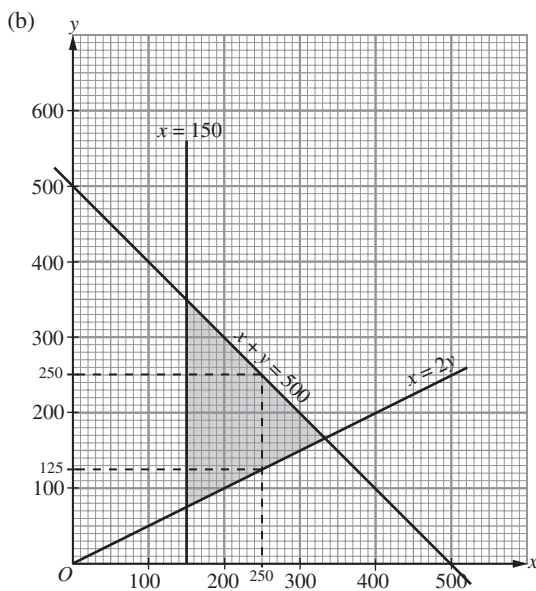
- (c) (i) Jisim maksimum gula/Maximum mass of sugar = 3 kg  
 (ii) Tidak.  $x = 4$  terletak di luar rantau berlorek.  
 No.  $x = 4$  is outside the shaded region.

- 7 (a) Katakan  $x =$  bilangan peserta dewasa  
 Let  $x =$  the number of adult participants  
 Katakan  $y =$  bilangan peserta kanak-kanak  
 Let  $y =$  the number of child participants  
 I  $15x + 10y \leq 600$   
 $3x + 2y \leq 120$   
 II  $x + y \geq 40$   
 III  $x \leq y$



(c) Minimum = 26, maksimum/maximum = 39

- 8 (a) Katakan  $x$  = bilangan nasi lemak  
 Let  $x$  = the number of nasi lemak  
 Katakan  $y$  = bilangan mi goreng  
 Let  $y$  = the number of fried noodles
- I  $x + y \leq 500$
  - II  $x \leq 2y$
  - III  $x \geq 150$



(c) Julat/range :  $125 \leq y \leq 250$

### Bahagian C

- 9 (a) (i) Nisbah jualan durian kepada manggis adalah tidak melebihi 3 : 1.  
 The ratio of the sales of durians to the sales of mangosteens is not more than 3 : 1.

(terima mana-mana perihalan yang menghasilkan ketaksamaan  $3y \geq x$ )  
 (accept any description that produce inequality of  $3y \geq x$ )

Jualan manggis selebih-lebihnya 30 kg.

The sales of mangosteens is at most 30 kg.

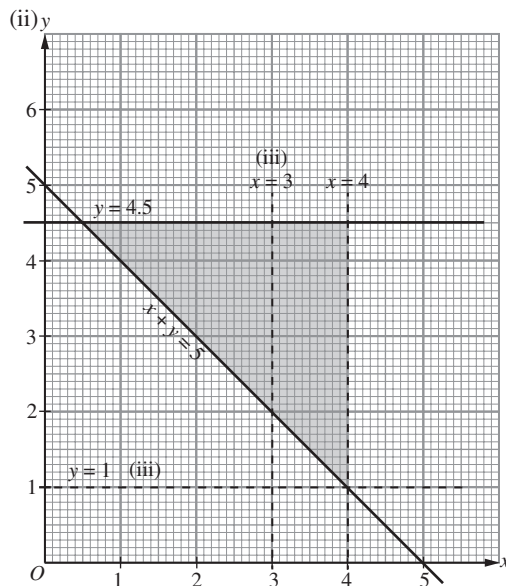
(terima mana-mana perihalan yang menghasilkan ketaksamaan  $y \leq 30$ )

(accept any description that produce inequality of  $y \leq 30$ )

- (ii) Rekod adalah tidak tepat. Berdasarkan graf, apabila jisim manggis,  $y = 10$  kg, jisim durian,  $x = 30$  kg adalah di luar rantau berlorek.

The record is inaccurate. Based on the graph, when the mass of mangosteens,  $y = 10$  kg, the mass of the durians,  $x = 30$  kg is out of the shaded region.

- (b) (i) Katakan  $x$  = jisim isi durian  
 Let  $y$  = the mass of durian flesh  
 Katakan  $y$  = jisim tepung  
 Let  $y$  = the mass of flour
- I  $x < 4$
  - II  $x + y \geq 5$
  - III  $y \leq 0.9 \times 5$   
 $y \leq 4.5$



- (iii) (a)  $1 \leq y \leq 4.5$   
 (b)  $x = 3, 2 \leq y \leq 4.5$   
 Jisim maksimum baki tepung  
 Maximum mass of the remaining flour  
 =  $(4.5 - 2) \times 1\,000$  g  
 = 2 500 g