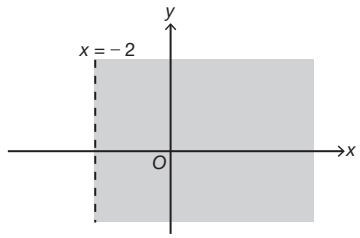
Jawapan

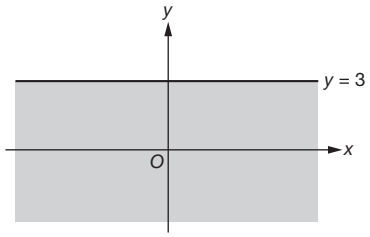
Praktis 7

Praktis Formatif

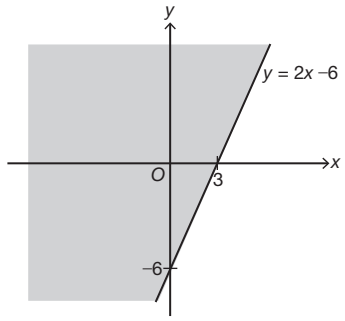
1 (a) $x > -2$



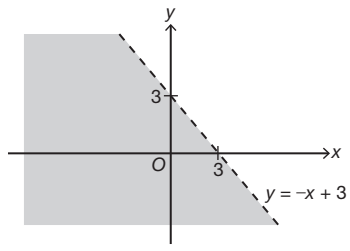
(b) $y \leqslant 3$



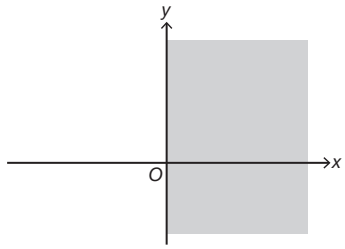
(c) $y \geqslant 2x - 6$



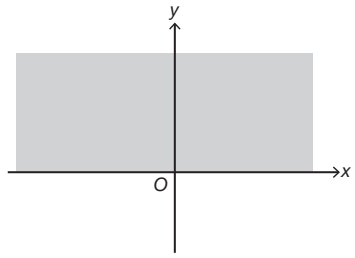
(d) $y < -x + 3$



(e) $x \geqslant 0$



(f) $y \geqslant 0$



2 (a) $y \leqslant x$

(b) $y < 2 - x$

(c) $y \geqslant -2x - 2$

(d) $y > \frac{4}{5}x + 4$

3 (a) Biar/*Let*
x = panjang/*length*
y = lebar/*width*
$5x + 5y \leqslant 3$

(b) Biar/*Let*
x = pelajar lelaki/*male student*
y = pelajar perempuan/*female student*
$x + y \geqslant 20$

(c) Biar/*Let*
x = jualan tiket kanak-kanak
the sales of children's ticket
y = jualan tiket dewasa
the sales of adult's ticket
$x + y > 10\,000$

(d) Biar/*Let*
x = umur May/*May's age*
y = umur Faeza/*Faeza's age*
$x > 3y$

(e) Biar/*Let*
x = perjalanan dari Melaka ke Johor
the journey from Melaka to Johor
$x < 3$ h

(f) Biar/*Let*
x = berat tanpa muatan/*kerb weight*
$x \leqslant 3\,500$ kg

(g) Biar/*Let*
x = suhu badan pelanggan
customer's body temperature
$x \leqslant 37.2°C$

(h) Biar/*Let*
x = markah kelulusan ujian Matematik Tambahan
the passing mark in the Additional Mathematics test
$x \geqslant 40$ markah/*marks*

(i) Biar/*Let*
x = bilangan ahli pasukan/*the number of team members*
$x \geqslant 3$

(i) $>$ melebihi, lebih besar daripada
exceeds, more than

(ii) $<$ kurang daripada/*less than*

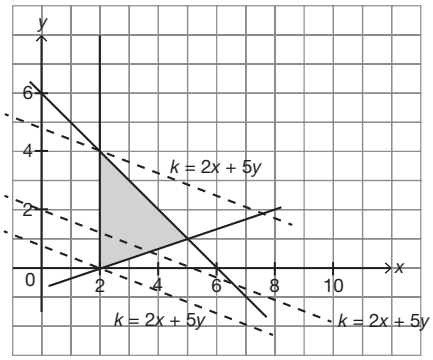
(iii) $\geqslant$ minimum, sekurang-kurangnya, tidak kurang daripada
minimum, at least, not less than

(iv) $\leqslant$ maksimum, selebih-lebihnya, tidak melebihi
maximum, at most, not more than

4 (a) $5y = k - 2x$

$$y = \frac{k}{5} - \frac{2}{5}x$$

(b), (c)



Pada/*At* (2, 0), $k_{\min} = 2(2) + 5(0)$
$= 4$
Pada/*At* (2, 4), $k_{\max} = 2(2) + 5(4)$
$= 4 + 20$
$= 24$

5 (a) Gantikan (2, 3) ke dalam/*Substitute* (2, 3) *into*

$y = mx + 2$	dan/*and*	$y = mx + 4$
$3 = 2m + 2$		$3 = 2m + 4$
$m = \frac{1}{2}$		$m = -\frac{1}{2}$
$y = \frac{1}{2}x + 2$	dan/*and*	$y = -\frac{1}{2}x + 4$

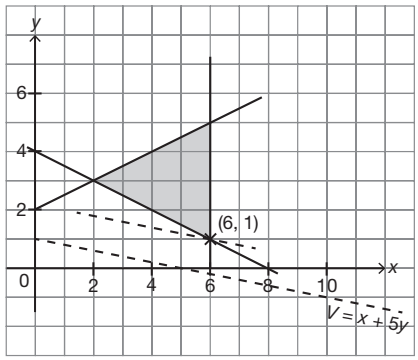
(i) $x \leqslant 6$

$$y \leqslant \frac{1}{2}x + 2$$

$$y \geqslant -\frac{1}{2}x + 4$$

(ii) $V = x + 5y$

$$y = \frac{V}{5} - \frac{1}{5}x$$



$x + 5y$ minimum pada titik (6, 1)
$x + 5y$ *is minimum at the point* (6, 1)
$V_{\min} = 6 + 5(1)$
$= 11$

(b) $m = \frac{2 - 0}{8 - 2}$

$= \frac{1}{3}$

$y = \frac{1}{3}x + c$

$2 = \frac{1}{3}(8) + c$

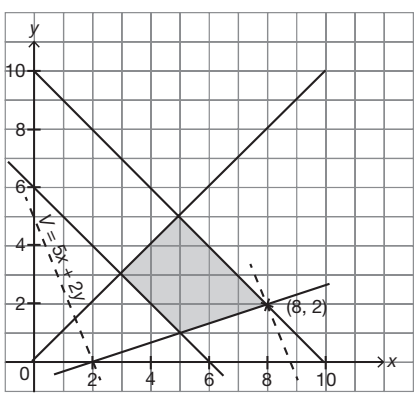
$c = -\frac{2}{3}$

$y = \frac{1}{3}x - \frac{2}{3}$

(i) $y \leqslant 10 - x$
$y \geqslant 6 - x$
$y \leqslant x$
$y \geqslant \frac{1}{3}x - \frac{2}{3}$

(ii) $V = 5x + 2y$

$$y = \frac{V}{2} - \frac{5}{2}x$$



$5x + 2y$ maksimum pada titik (8, 2)
$5x + 2y$ *maximum at the point* (8, 2)
$V_{\max} = 5(8) + 2(2)$
$= 44$

(c) Gantikan (6, 1) ke dalam/*Substitute* (6, 1) *into* $y = mx$

$1 = 6m$

$m = \frac{1}{6}$

$\therefore y = \frac{1}{6}x$

Gantikan (4, 0) ke dalam/*Substitute* (4, 0) *into*

$y = mx + 2$

$0 = 4m + 2$

$m = -\frac{1}{2}$

$\therefore y = 2 - \frac{1}{2}x$

Gantikan (9, 0) ke dalam/*Substitute* (9, 0) *into*

$y = mx + 3$

$0 = 9m + 3$

$m = -\frac{1}{3}$

$\therefore y = 3 - \frac{1}{3}x$

(i) $y \leqslant \frac{1}{6}x$

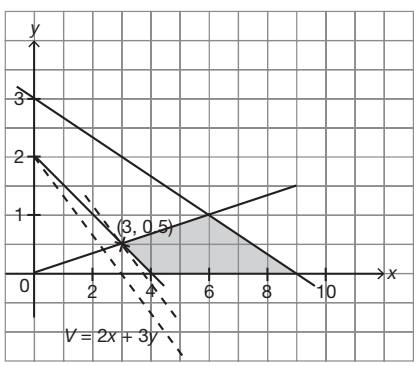
$y \geqslant 2 - \frac{1}{2}x$

$y \leqslant 3 - \frac{1}{3}x$

$y \geqslant 0$

(ii) $V = 2x + 3y$

$y = \frac{V}{3} - \frac{2}{3}x$



$2x + 3y$ minimum pada titik/*minimum at the point* (3, 0.5)

$V_{min} = 2(3) + 3(0.5)$

$= 7.5$

6 (a) I Jumlah roti jenis *B* yang dihasilkan adalah sekurang-kurangnya satu suku daripada roti jenis *A*.
The total number of type B bread produced per day is at least a quarter of the number of type A bread.

II Jumlah masa yang digunakan untuk menghasilkan doh kedua-dua jenis roti adalah selebih-lebihnya 600 minit.
The total time used to produce the dough for both types of bread is at most 600 *minutes.*

III Jumlah masa yang diperlukan untuk membakar kedua-dua jenis roti adalah sekurang-kurangnya 480 minit.
The total time needed to bake both types of bread is at least 480 *minutes.*

(b) Biar/*Let*

x = bilangan roti jenis *A*/*the number of type A bread*

y = bilangan roti jenis *B*/*the number of type B bread*

I $y \geqslant \frac{1}{4}x$

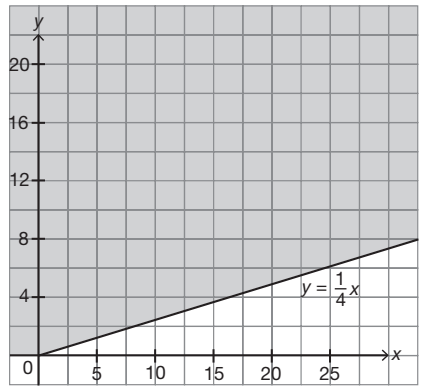
II $30x + 40y \leqslant 600$

$3x + 4y \leqslant 60$

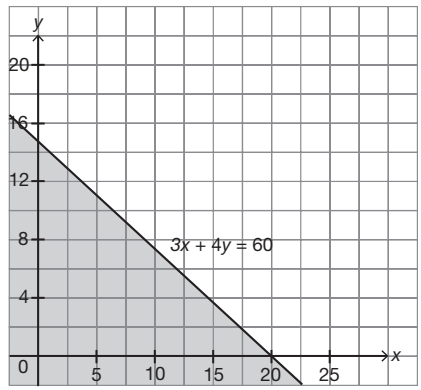
III $30x + 30y \geqslant 480$

$x + y \geqslant 16$

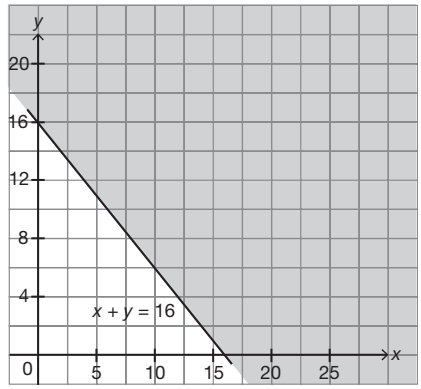
(c) $y \geqslant \frac{1}{4}x$



$3x + 4y \leqslant 60$



$x + y \geqslant 16$



7 $15\,000x + 35\,000y \geqslant 3.6 \times 10^6$

$15x + 35y \geqslant 3\,600$

$3x + 7y \geqslant 720$

$x + y \leqslant 600$

$y \leqslant 350$

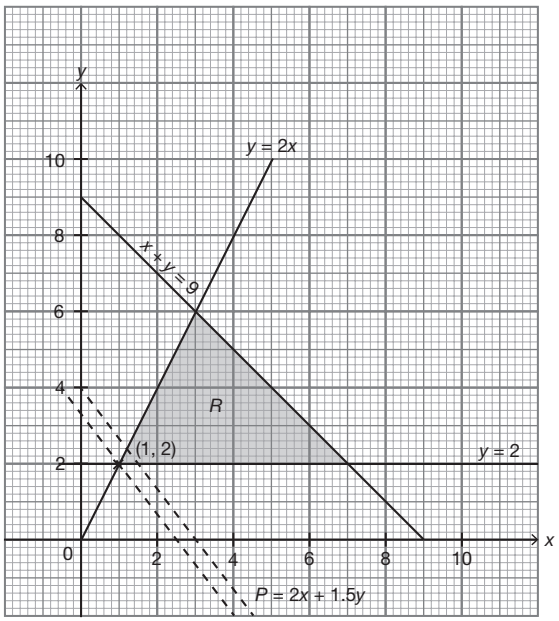
$x \leqslant 2y$

8 (a) I $x + y \leqslant 9$

II $y \leqslant 2x$

III $y \geqslant 2$

(b)



(c) (i) $y = 2 \Rightarrow 2 \leqslant x \leqslant 7$

(ii) $P = 2x + 1.5y$

$= 2(1) + 1.5(2)$

$= 5$ jam/*hours*

Jumlah ahli jawatankuasa

The total number of committee members

$= 1 + 2$

$= 3$

9 (a) Biar/*Let*

x = bilangan congkak kayu

the number of wooden congkak

y = bilangan gasing/*the number of traditional top*

I $x \geqslant 10$

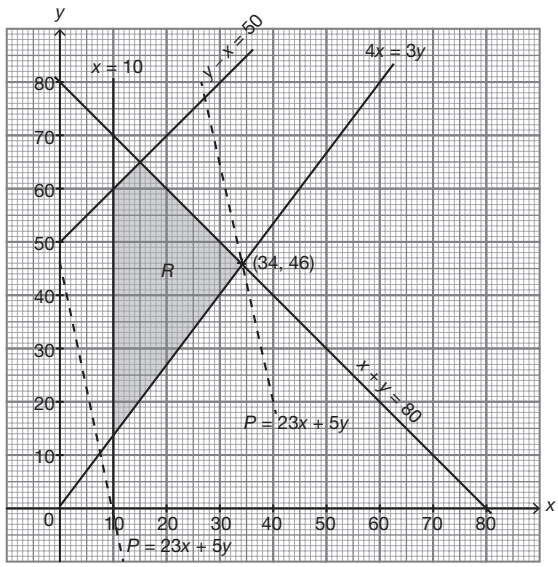
II $y - x \leqslant 50$

III $\frac{x}{y} \leqslant \frac{3}{4}$

$4x \leqslant 3y$

IV $x + y \leqslant 80$

(b)



(c) (i) $x = 20 \Rightarrow 27 \leqslant y \leqslant 60$

(ii) $P = (48 - 25)x + (15 - 10)y$

$= 23x + 5y$

$= 23(34) + 5(46)$

$= \text{RM}1\,012$

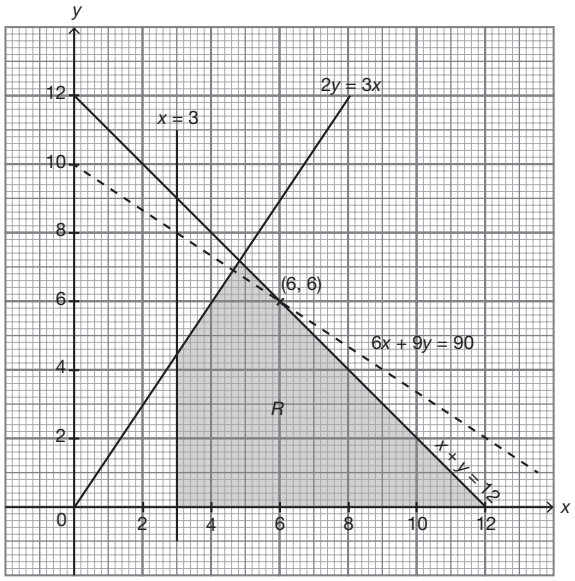
11 (a) I $x \geqslant 3$

II $x + y \leqslant 12$

III $\frac{y}{x} \leqslant \frac{3}{2}$

$2y \leqslant 3x$

(b)



(c) (i) $y = 5 \Rightarrow 4 \leqslant x \leqslant 7$

(ii) $6x + 9y \leqslant 90$

$x = 6, y = 6$

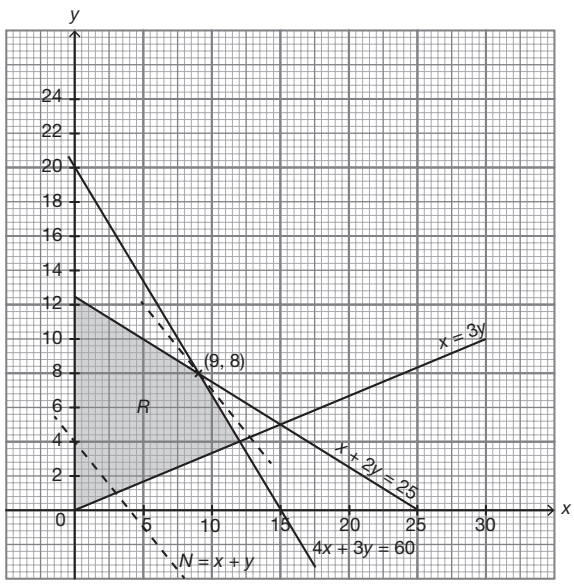
Praktis Sumatif

Kertas 2

1 (a) Jisim tepung/*The mass of flour* $= 2 \times 1.35$
$= 2.7$ kg
Jisim mentega/*The mass of butter* $= 10 \times 250$
$= 2\,500$ g

$180x + 135y \leqslant 2\,700$
$4x + 3y \leqslant 60$
$100x + 200y \leqslant 2\,500$
$x + 2y \leqslant 25$
$\frac{x}{y} \leqslant \frac{3}{1}$
$x \leqslant 3y$

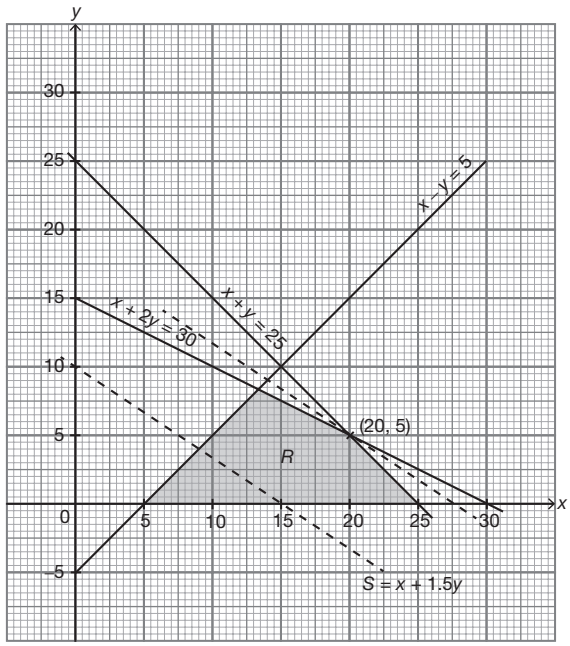
(b)



(c) (i) $y = 10 \Rightarrow 0 \leqslant x \leqslant 5$
(ii) $N = x + y$
$= 9 + 16$
$= 25$ biji/*cakes*

2 (a) $0.04x + 0.04y \leqslant 1$
$4x + 4y \leqslant 100$
$x + y \leqslant 25$
$x + 2y \leqslant 30$
$x - y \geqslant 5$

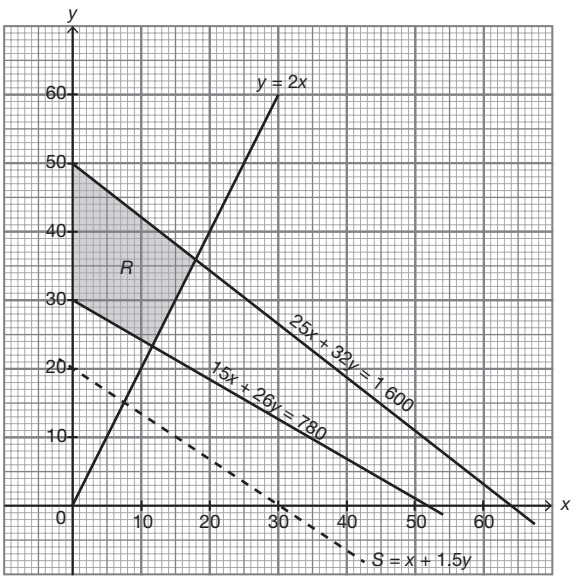
(b)



(c) (i) $x + 2y = 30$
$x + y = 25$
$x = 20, y = 5$
(ii) $S = (2 - 1)x + (3.50 - 2)y$
$S = x + 1.5y$
$= 20 + 1.5(5)$
$= \text{RM}27.50$

3 (a) $2\,500x + 3\,200y \leqslant 160\,000$
$25x + 32y \leqslant 1\,600$
$375x + 650y \geqslant 19\,500$
$15x + 26y \geqslant 780$
$\frac{x}{y} \leqslant \frac{1}{2}$
$y \geqslant 2x$

(b)

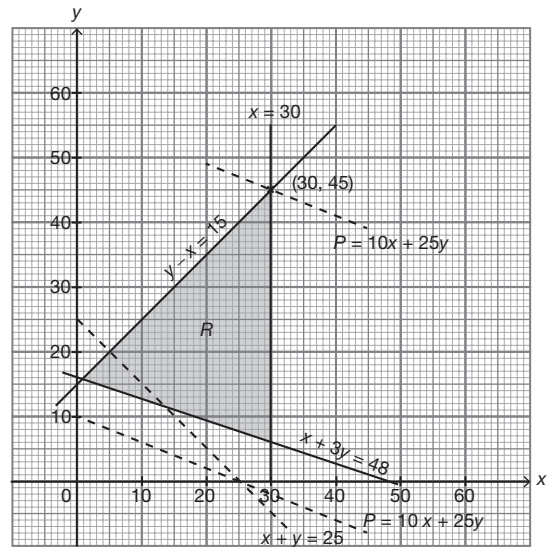


(c) (i) x = RM25 000 ÷ RM2 500
= 10
$\therefore 24 \leqslant y \leqslant 42$
Dividen maksimum/*Maximum dividend*
= 375(10) + 650(42)
= RM31 050

(ii) $y = 35$
$\therefore 0 \leqslant x \leqslant 17$
Pelaburan maksimum/*The maximum investment*
= 17 × RM3 200
= RM54 400

4 (a) I $x \leqslant 30$
II $y - x \leqslant 15$
III $5x + 15 \geqslant 240$
$x + 3y \geqslant 48$

(b)



(c) (i) $x + y = 25$
$x_{max} = 13$

(ii) $P = 10x + 25y$
= 10(30) + 25(45)
= RM1 425