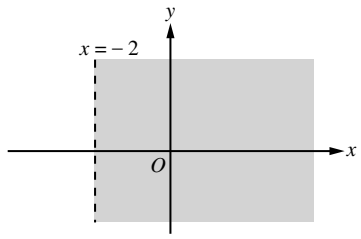
Penyelesaian Lengkap

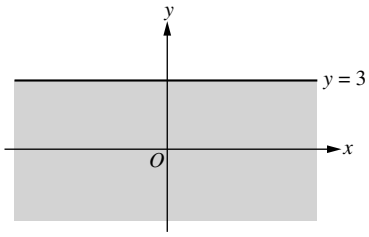
Praktis 7

Praktis Formatif

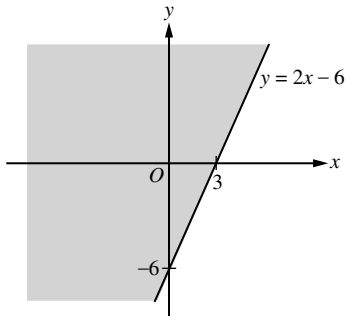
1 (a) $x > -2$



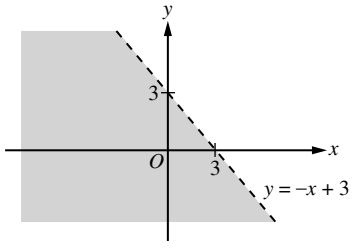
(b) $y \leqslant 3$



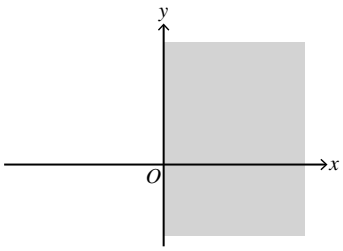
(c) $y \geqslant 2x - 6$



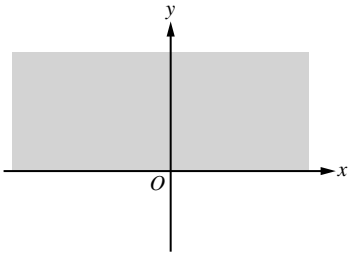
(d) $y < -x + 3$



(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*
$5x + 5y \leqslant 3$
$2x + 2y \leqslant 1.2$
$x + y \leqslant 0.6$
$5x + 5y \leqslant 3$

(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*

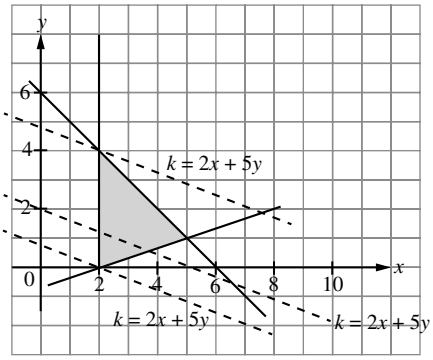
(iii) $\geqslant$ minimum, sekurang-kurangnya, tidak kurang daripada
minimum, at least, not less than

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

$= \dfrac{1}{3}$

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

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

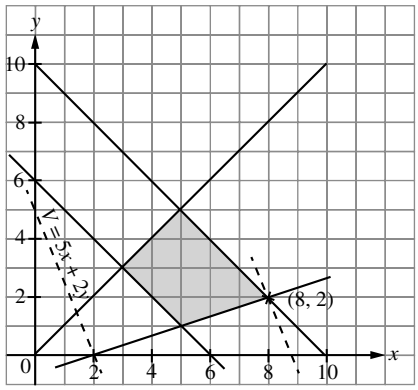
$c = -\dfrac{2}{3}$

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

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

(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)
$V_{\max} = 5(8) + 2(2)$
$= 44$

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

$1 = 6m$

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

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

Gantikan (4, 0) ke dalam/*Substitute* (4, 0) *into*
$y = mx + 2$
$0 = 4m + 2$
$m = -\dfrac{1}{2}$

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

Gantikan (9, 0) ke dalam/*Substitute* (9, 0) *into*
$y = mx + 3$
$0 = 9m + 3$
$m = -\dfrac{1}{3}$

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

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

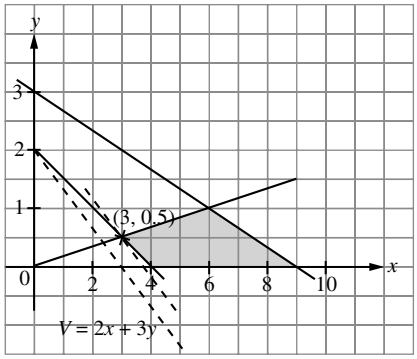
$y \geqslant 2 - \dfrac{1}{2}x$

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

$y \geqslant 0$

(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 Masa kedai beroperasi sekurang-kurangnya 20 jam seminggu.
The shop operating time is at least 20 *hours a week.*

II Kos pembelian alat dan produk untuk mencuci kereta tidak melebihi RM80 seminggu.
The purchasing cost of tools and products to wash cars is not more than RM80 *a week.*

III Bilangan kereta sedan yang dicuci tidak melebihi dua kali ganda bilangan bilangan kereta *SUV* atau *MPV* yang dicuci.
The number of sedan car washed is not more than twice the number of SUV or MPV washed.

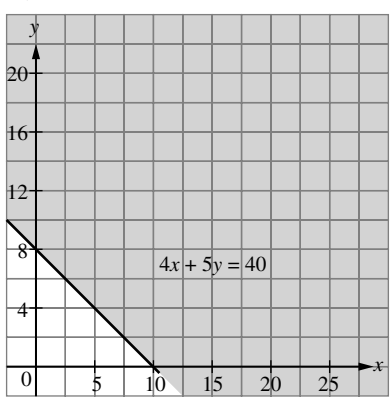
(b) I $2x + 2.5y \geqslant 20$

$4x + 5y \geqslant 40$

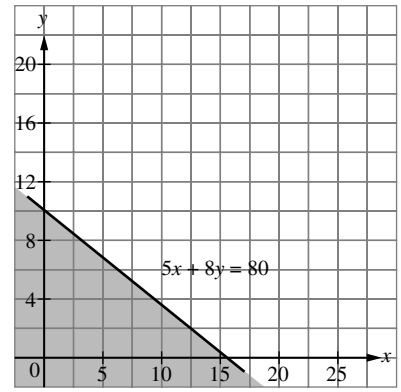
II $5x + 8y \leqslant 80$

III $x \leqslant 2y$

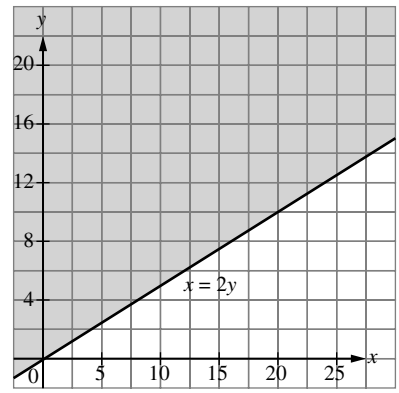
(c) $4x + 5y \geqslant 40$



$5x + 8y \leqslant 80$



$x \leqslant 2y$



7 $x + y \geqslant 12$

$y \leqslant 2x$

$5x + 8y \leqslant 2 \times 60$

$5x + 8y \leqslant 120$

8 (a) I $6x + 4y \leqslant 1\,200$

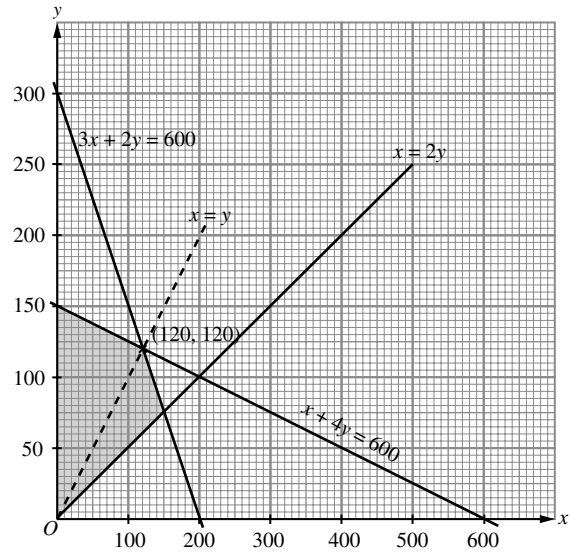
$3x + 2y \leqslant 600$

II $10x + 40y \leqslant 6\,000$

$x + 4y \leqslant 600$

III $x \leqslant 2y$

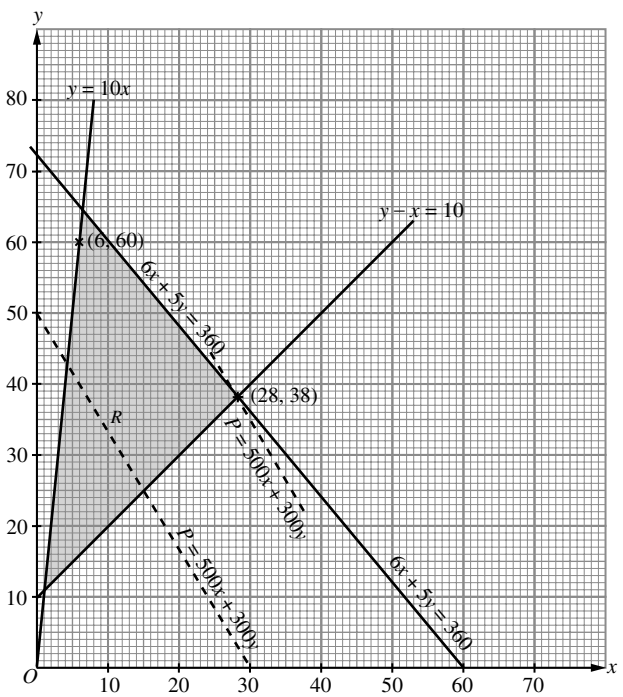
(b)



(c) (i) $x = 100$
$50 \leqslant y \leqslant 125$
(ii) $P = 10x + 40y$
$= 10(120) + 40(120)$
$=$ RM6 000

9 (a) Biar/*Let*
$x =$ bilangan pegawai pengurusan
the number of management officers
$y =$ bilangan pegawai pendidikan
the number of education officers
I $6\,000x + 5\,000y \leqslant 360\,000$
$6x + 5y \leqslant 360$
II $y - x \geqslant 10$
III $x \geqslant 0.1y$
$10x \geqslant y$

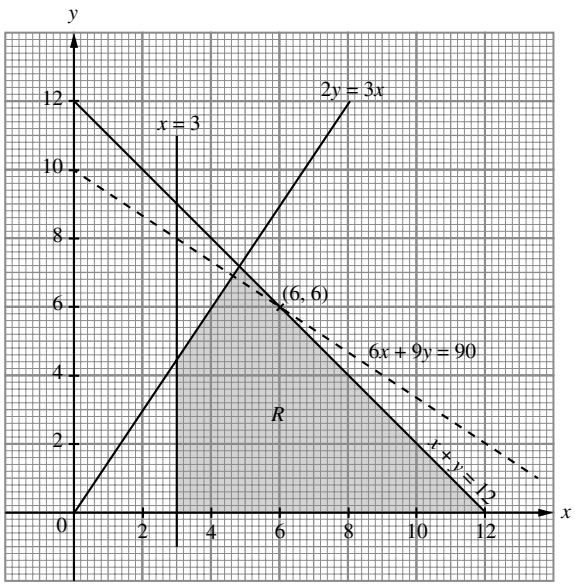
(b)



(c) (i) $x + y$ maksimum/*maximum* $= 6 + 60$
$= 66$
(ii) $P = 500x + 300y$
$P = 500(28) + 300(38)$
$=$ RM25 400

10 (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) $6x + 9y \leqslant 90$
$x = 6, y = 6$

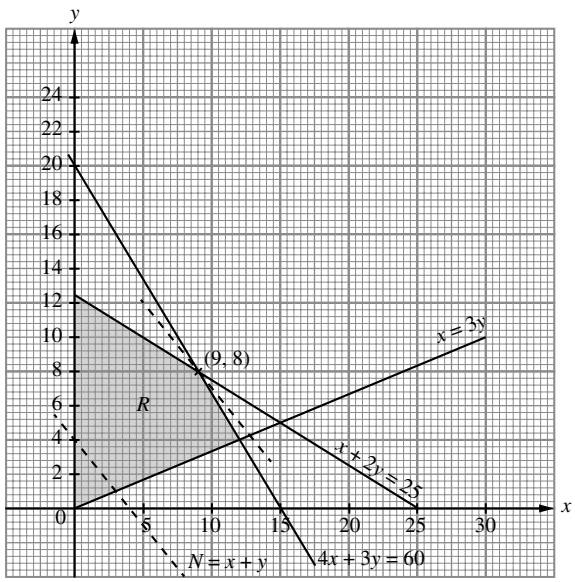
Praktis Sumatif

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) $N = x + y$

$= 9 + 8$

$= 17$ biji/*cakes*

2 (a) $6x + 3y \geqslant 240$

$2x + y \geqslant 80$

$30x + 6y > 80(12)$

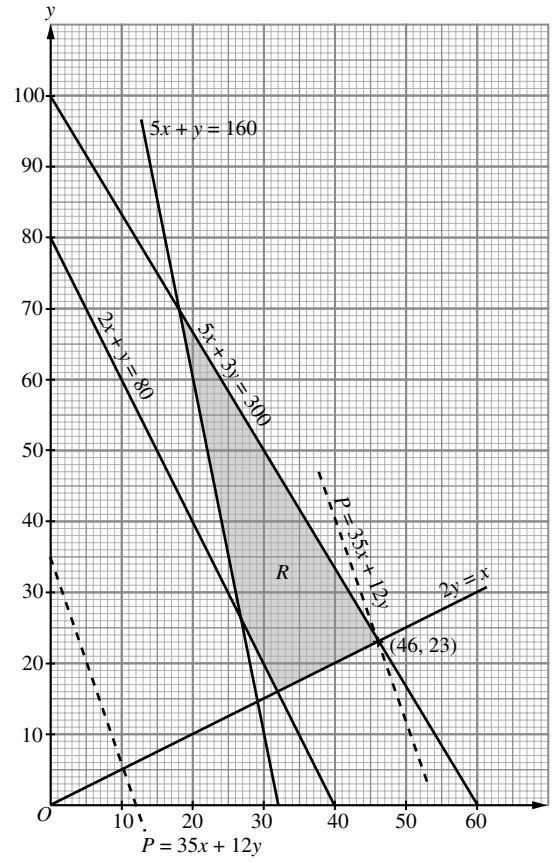
$5x + y > 160$

$5x + 3y < 300$

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

$2y \geqslant x$

(b)



(c) (i) $P = (75 - 40)x + (30 - 18)y$

$= 35x + 12y$

P maksimum apabila/*is maximum when*

$x = 46, y = 23$

$P = 35(46) + 12(23)$

$= 1\,886$

Keuntungan maksimum/*Maximum profit*

= RM1 886

(ii) Bilangan buku nota/*The number of notebooks*

$= 6(46) + 3(23)$

$= 345$

3 (a) $2\,500x + 3\,200y \leqslant 160\,000$

$25x + 32y \leqslant 1\,600$

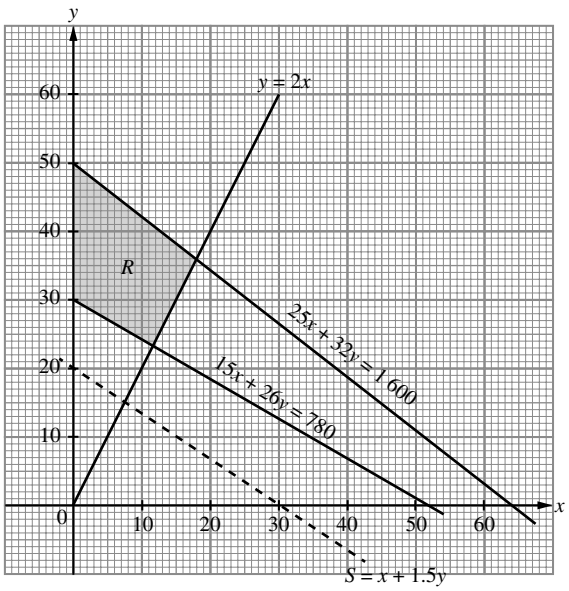
$375x + 650y \geqslant 19\,500$

$15x + 26y \geqslant 780$

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

$y \geqslant 2x$

(b)

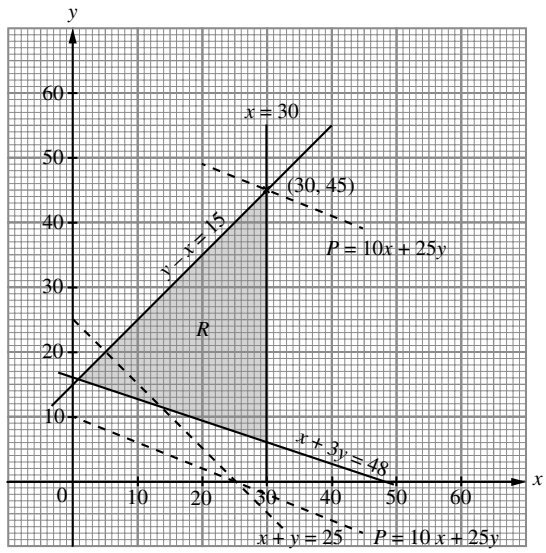


(c) (i) x = RM25 000 ÷ RM2 500 = 10
$\therefore 24 \leqslant y \leqslant 42$
Dividen maksimum/*Maximum dividend*
= 375(10) + 650(42) = RM31 050

(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