MODUL PINTAS
TINGKATAN 5

1449/2

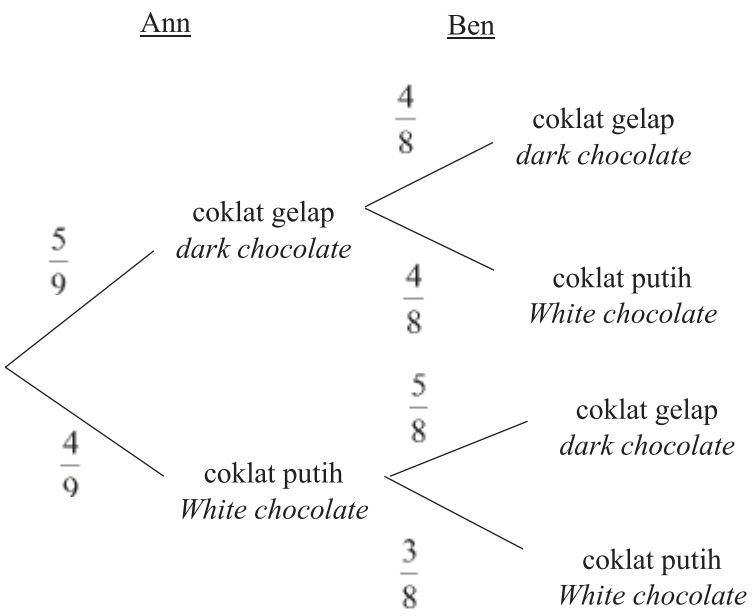
MATEMATIK
Kertas 2

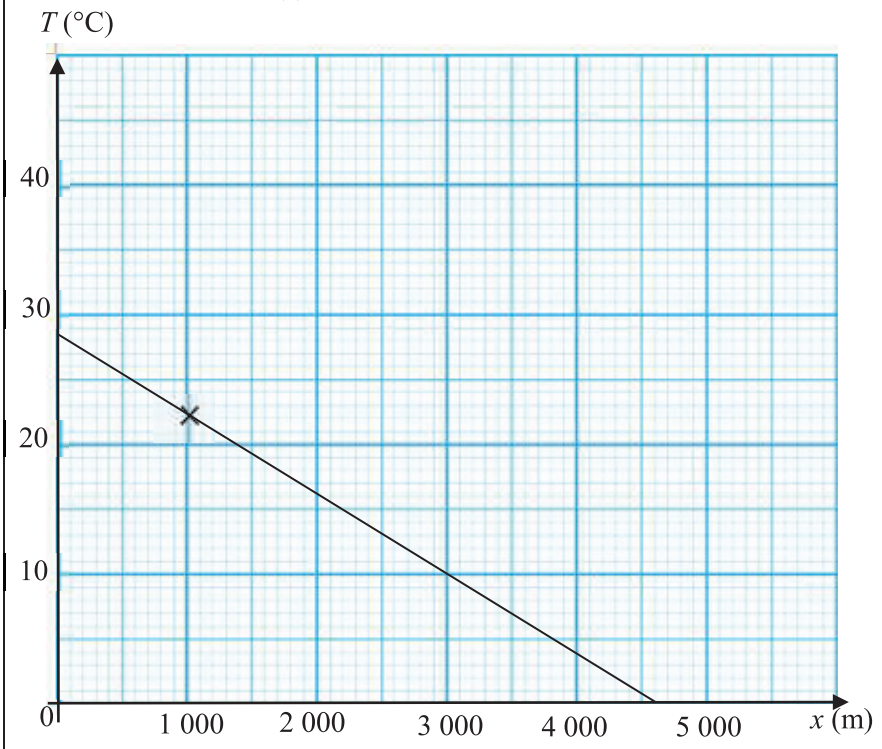
$2\frac{1}{2}$ jam

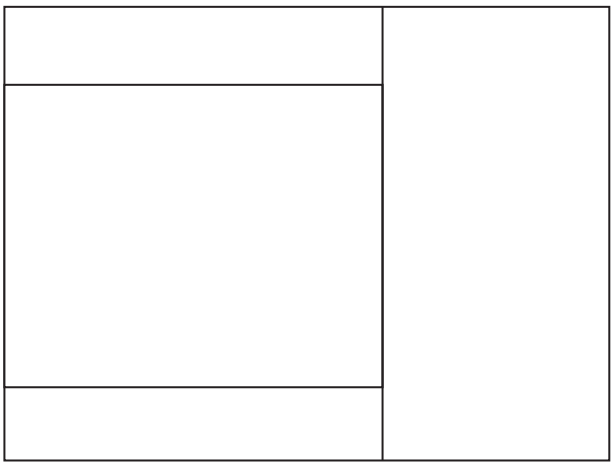
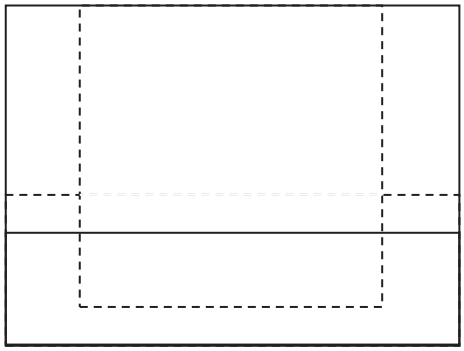
Dua jam tiga puluh minit

PERATURAN PEMARKAHAN
MATEMATIK K2
1449/2

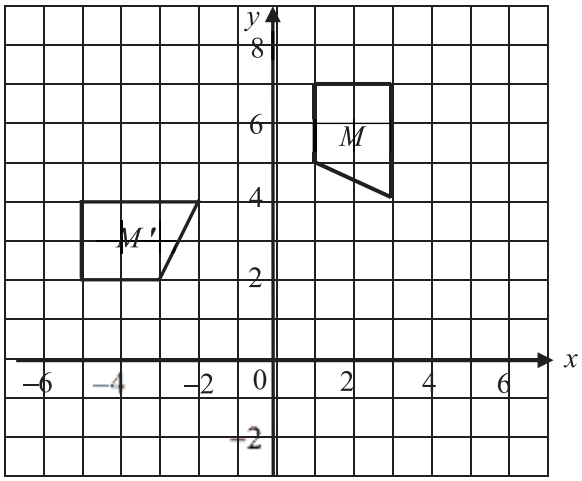
Soalan	Skema markah / Marking Scheme	Marks	
		Submarks	Total Marks
1	$x^2 - 25 = 0$ $(x-5)(x+5) = 0$ $x = 5, \ x = -5$ Lebar = 10 m *OR* equivalent	1 mark 1 mark 1 mark 1 mark	4 marks
2	$\sqrt{1.5^2 + 1^2}$ *or* $\sqrt{3.25}$ $2.8 - 2$ *or* 0.8 $\tan\theta = \dfrac{0.8}{\sqrt{3.25}}$ $23.93°$	1 mark 1 mark 1 mark 1 mark	4 marks
3 (*a*)	$\dfrac{1.57}{2 \times 3.142}$ $0.249 - 0.25$	1 mark 1 mark	
(*b*)	$\dfrac{90}{360} \times \dfrac{22}{7} \times 7^2$ *or* $\dfrac{1}{2} \times 7 \times 7$ *or equivalent* $\dfrac{90}{360} \times \dfrac{22}{7} \times 7^2 - \dfrac{1}{2} \times 7 \times 7$ *or equivalent* 14 NOTE: 1. Accept π for marks. 2. Correct answer from incomplete working award 2 marks.	1 mark 1 mark 1 mark	5 marks
4 (*a*)	(i) Palsu (ii) Benar	1 mark 1 mark	
(*b*)	9 boleh dibahagi tepat dengan nombor itu sendiri, 3 dan 1 sahaja	1 mark	4 marks
(*c*)	Jika $p = 4$, maka $p + 3 = 7$	1 mark	

Soalan	Skema markah / Marking Scheme	Marks	
		Submarks	Total Marks
5	$x \geq 0$ $y < -x + 7$ $y \geq x - 1$	1 mark 1 mark 1 mark	3 marks
6 (*a*)		2 marks	4 marks
(*b*)	$\left(\frac{5}{9}\times\frac{4}{8}\right)+\left(\frac{4}{9}\times\frac{5}{8}\right)$ $\frac{5}{9}$	1 mark 1 mark	
7	2 000 + 450 – 750 – 350 – 450 – 180 – 900 – 180 Aliran tunai negatif * Mengurangkan perbelanjaan makanan dengan masak sendiri / bekal atau * Mengurangkan perbelanjaan minyak dan tol dengan menaiki kenderaan awam atau *Mengurangkan penggunaan bol utiliti dengan menjimatkan penggunaan elektrik dan air Nota : 1. Kelihatan RM2450 atau RM2630 boleh 1M 2. *mana-mana 1 atau setara yang relevan diterima	2 marks 1 mark 1 mark	4 marks

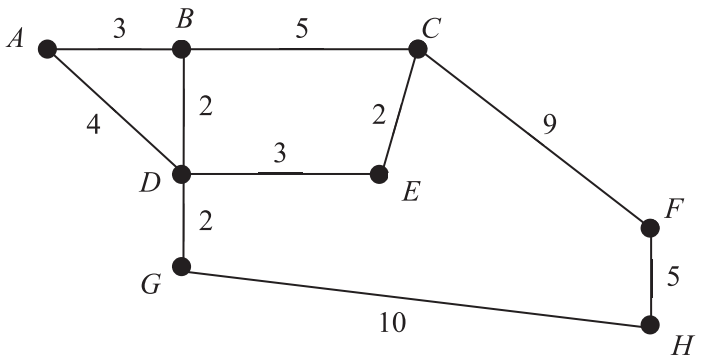
Soalan	Skema markah / Marking Scheme	Marks	
		Submarks	Total Marks
8	$T = \left(-6 \times 10^{-3}\right)x + 28$ *or* equivalent ×  	1 mark 3 marks	4 marks
9 (*a*)	$m = \frac{1}{6}$	1 mark	4 marks
(*b*)	$m = \frac{4}{3}$	1 mark	
	$2 = {}^{*}\left(\frac{4}{3}\right)(3) + C$ **OR** $\frac{y-2}{x-3} = {}^{*}\left(\frac{4}{3}\right)$ *or* equivalent	1 mark	
	$y = \frac{4}{3}x - 2$ *or* equivalent	1 mark	
10 (*a*)	RM366 400	1 mark	4 marks
(*b*)	RM39 500	1 mark	
(*c*)	Tidak Encik Azwan dan Puan Marina hanya akan menerima pampasan maksimum RM360 900 *or* equivalent	1 mark 1 mark	

Soalan	Skema markah / Marking Scheme	Marks	
		Submarks	Total Marks
11 (*a*)		4 marks	9 marks
(*b*)		5 marks	
12 (*a*)	$\frac{18-15}{0-8}$ *or equivalent* $-\frac{3}{8}$ *or equivalent* Note: 1. Accept correct answer without working for 2 marks.	2 marks 1 mark	7 marks
(*b*)	$\frac{1}{2}\times(15+18)\times 8$ *or equivalent* $\frac{1}{2}\times(t-8)\times 15$ *or equivalent* $\frac{1}{2}\times(15+18)\times 8=\frac{1}{2}\times(t-8)\times 15$ *or equivalent* 25.6	1 mark 1 mark 1 mark 1 mark	

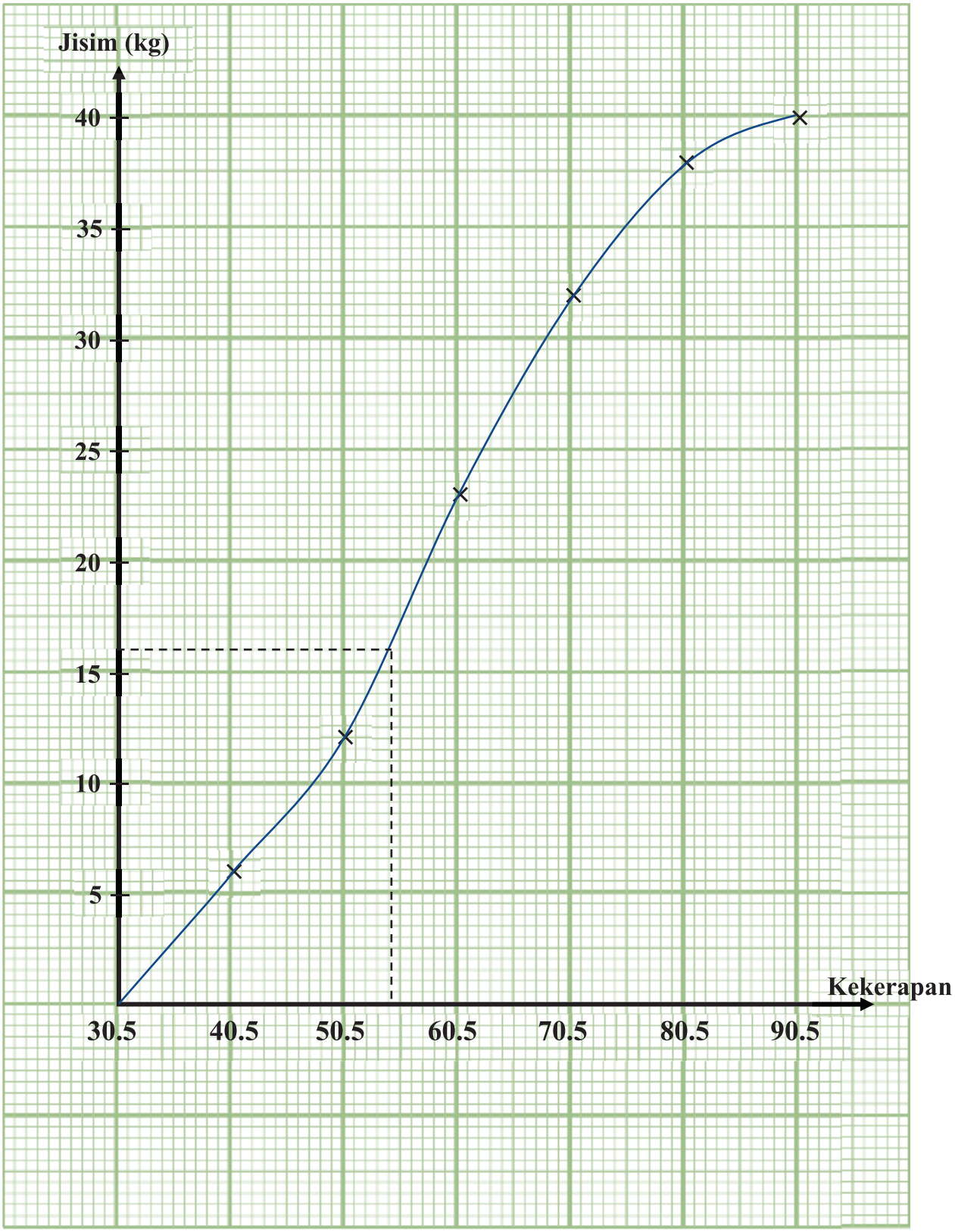
Soalan	Skema markah / Marking Scheme	Marks	
		Submarks	Total Marks
13 (*a*)	Batang | Daun 9 | 5 8 | 0 2 4 5 5 6 8 7 | 0 1 2 4 4 5 6 9 6 | 2 7 7 8 8 8 9 9 5 | 0 4 | 2 6 9 3 | 5 8 3|5 bermaksud 35 kg	4 marks	10 marks
(*b*) (i)	Jisim (kg) *Mass* (kg) / Kekerapan *Frequency* / Kekerapan Longgokan *Cumulative frequency* / Sempadan Atas *Upper Boundary* 21 – 30: 0 / **0** / 30.5 31 – 40: 6 / **6** / 40.5 41 – 50: 6 / **12** / 50.5 51 – 60: 11 / **23** / 60.5 61 – 70: 9 / **32** / 70.5 71 – 80: 6 / **38** / 80.5 81 – 90: 2 / **40** / 90.5	1 mark	
(ii)	Rujuk Ogif	4 marks	
(iii)	54.5	1 mark	
14 (*a*)	$T \propto \frac{1}{x}$ atau $6 = \frac{k}{3}$ $T = \frac{18}{x}$	1 mark 1 mark	8 marks
(*b*)	x: 1, 2, 3, 5, 6, 8 T: 18, 9, 6, **3.6**, 3, 2.25	1 mark	
(*c*)	Graph Axes are drawn in the correct direction, uniform scale for $0 \le x \le 8$ and $0 \le y \le 18$.	1 mark	
	5 points and 1 point* plotted accurately	2 marks	
	Smooth and continuous curve without straight line(s) and passes through all the 6 correct points $0 \le x \le 8$ and $0 \le y \le 18$.	1 mark	
	Notes : (1) 5 points plotted correctly award 1 mark (2) Other scale being used, subtract 1 mark		
(*d*)	4	1 mark	

Soalan	Skema markah / Marking Scheme	Marks	
		Submarks	Total Marks
15 (*a*)	(i) $(-2, 0) \rightarrow (0, -2)$	2 marks	11
	(ii) 	1 mark	
(*b*)	(i) pantulan pada garis lurus $y = 6$ *reflection in the line* $y = 6$ Note: pantulan // *reflection*, award 1 mark	2 marks	
	(ii) putaran 90° ikut arah jam pada pusat (7, 6) *rotation of* 90° *clockwise about the centre* (7, 6) Note: 1. putaran 90° ikut arah jam or putaran, pusat (7, 6) // *rotation of* 90° *clockwise or rotation*, *centre* (7, 6), award 2 marks 2. putaran / *rotation*, award 1 mark	3 marks	
	(iii) (*a*) Faktor skala = –3/ *scale factor* = –3	1 mark	
	(*b*) $(-3)^2 \times$ luas $PQRS = 316.8$	1 mark	
	luas $PQRS = 35.2$ m^2	1 mark	

Soalan	Skema markah / Marking Scheme	Marks	
		Submarks	Total Marks
16 (*a*)	(i) $2x + x = 35 - 10 - 4 - 3 - 7 - 2$	1 mark	
	$x = 3$	1 mark	
	$7 + 3 + 2 + 6$	1 mark	
	18	1 mark	
	(ii) $4 + 2 + 7$ atau 13	1 mark	
(*b*)	(i) $42x + 30y = 291$ atau	1 mark	15 marks
	$54x + 36y = 360$	1 mark	
	(ii) $\begin{pmatrix} 42 & 30 \\ 54 & 36 \end{pmatrix}\begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} 291 \\ 360 \end{pmatrix}$	1 mark	
	$\begin{pmatrix} x \\ y \end{pmatrix} = \frac{1}{42(36) - 30(54)}\begin{pmatrix} 36 & -30 \\ -54 & 42 \end{pmatrix}\begin{pmatrix} 291 \\ 360 \end{pmatrix}$	1 mark	
	$x = 3$	1 mark	
	$y = 5.5$	1 mark	
(*c*)	$[93 \times 200] - [120 \times 40] - [\frac{1}{2} \times 40 \times 93]$	3 marks	
	11 940	1 mark	

Soalan	Skema markah / Marking Scheme	Marks	
		Submarks	Total Marks
17 (*a*)	(i) $152000 \times \frac{90}{100}$ *or* 136 800 *or* equivalent	1 mark	15 marks
	$136800 + 136800 \times \frac{2.1}{100} \times 7$ *or* equivalent	1 mark	
	156 909.60	1 mark	
	(ii) $\frac{156909.60}{7 \times 12}$ *or* $\frac{190304}{9 \times 12}$ *or* equivalent	1 mark	
	Bank Suci : 1 867.97	1 mark	
	Bank Murni : 1 762.07	1 mark	
(*b*)	(i) Jabatan Pengangkutan Jalan/ JPJ	1 mark	
	(ii) 280	1 mark	
	(iii) $280 + (1998 - 1800) \times 0.50$ *or* equivalent	1 mark	
	379	1 mark	
(*c*)	(i) 	2 marks	
	Note: Accept any orientation of graph with correct vertices and edges. All vertices and edges correctly drawn without weightage, award P1 Accept 2 mistakes of vertices and/or edges for P1		
	(ii) $A \rightarrow B \rightarrow D \rightarrow E \rightarrow D \rightarrow G \rightarrow H$	1 mark	
	23	1 mark	
	(iii) 20	1 mark	

Graf untuk Soalan 13 (*b*)(ii)
Graph for Question 13 (*b*)(ii)



Graf untuk Soalan 14 (*c*)
Graph for Question 14 (*c*)