

**MODUL PINTAS  
TINGKATAN 5**

**1449/2**

**MATEMATIK  
Kertas 2**

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

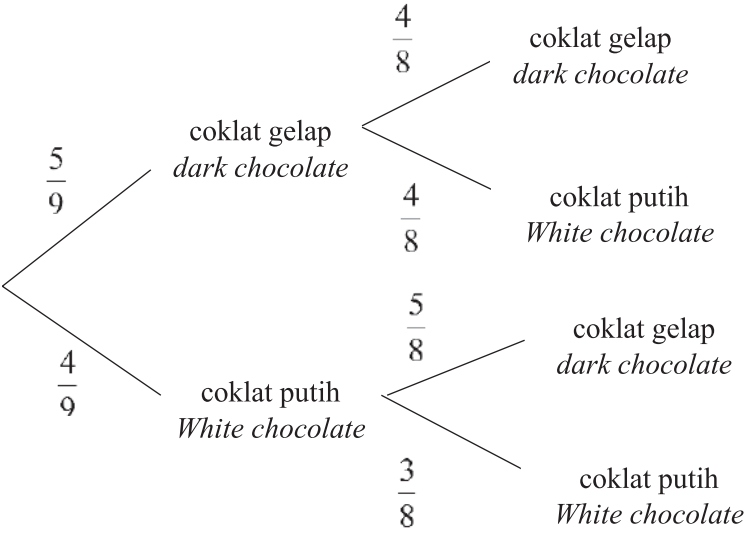
Dua jam tiga puluh minit

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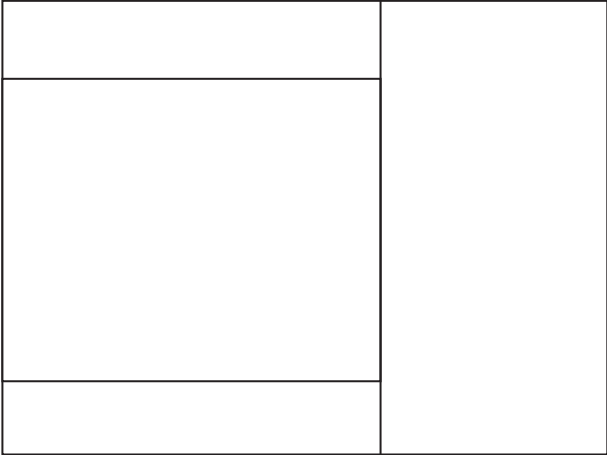
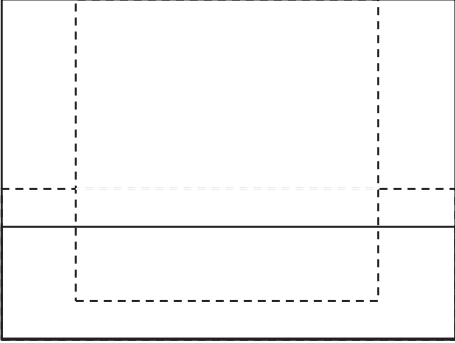
**PERATURAN PEMARKAHAN  
MATEMATIK K2**

**1449/2**

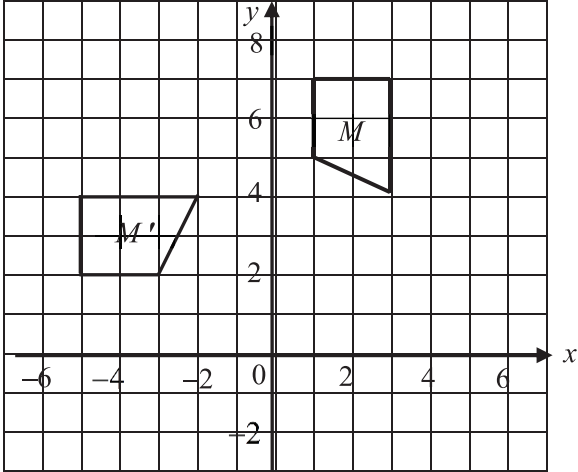
Soalan	Skema markah / Marking Scheme	Marks	
		Submarks	Total Marks
1	$x^2 - 25 = 0$ $(x - 5)(x + 5) = 0$ $x = 5, x = -5$ Lebar = 10 m  <u>OR equivalent</u>	1 mark 1 mark 1 mark  1 mark	4 marks
2	$\sqrt{1.5^2 + 1^2}$ <i>or</i> $\sqrt{3.25}$ $2.8 - 2$ <i>or</i> 0.8 $\tan \theta = \frac{0.8}{\sqrt{3.25}}$ $23.93^\circ$	1 mark 1 mark  1 mark  1 mark	4 marks
3 (a)	$\frac{1.57}{2 \times 3.142}$  $0.249 - 0.25$	1 mark   1 mark	5 marks
(b)	$\frac{90}{360} \times \frac{22}{7} \times 7^2$ <i>or</i> $\frac{1}{2} \times 7 \times 7$ <i>or equivalent</i> $\frac{90}{360} \times \frac{22}{7} \times 7^2 - \frac{1}{2} \times 7 \times 7$ <i>or equivalent</i>  14  <u>NOTE:</u> 1. Accept $\pi$ for marks. 2. Correct answer from incomplete working award 2 marks.	1 mark   1 mark  1 mark	
4 (a)	(i) Palsu  (ii) Benar	1 mark  1 mark	4 marks
(b)	9 boleh dibahagi tepat dengan nombor itu sendiri, 3 dan 1 sahaja	1 mark	
(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)	<div style="display: flex; justify-content: space-around; margin-bottom: 10px;"> <span><u>Ann</u></span> <span><u>Ben</u></span> </div> 	2 marks  4 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 <u>atau</u> * Mengurangkan perbelanjaan minyak dan tol dengan menaiki kenderaan awam <u>atau</u> * 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	$T = (-6 \times 10^{-3})x + 28 \text{ or equivalent}$ <p style="text-align: center;">×</p> <p><math>T (^{\circ}\text{C})</math></p> <p style="text-align: right;"><math>x \text{ (m)}</math></p>	1 mark	4 marks
		3 marks	
9 (a)	$m = \frac{1}{6}$	1 mark	4 marks
(b)	$m = \frac{4}{3}$	1 mark	
	$2 = * \left( \frac{4}{3} \right) (3) + C \text{ OR } \frac{y-2}{x-3} = * \left( \frac{4}{3} \right) \text{ or equivalent}$	1 mark	
	$y = \frac{4}{3}x - 2 \text{ or equivalent}$	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	1 mark	
	<u>or equivalent</u>	1 mark	

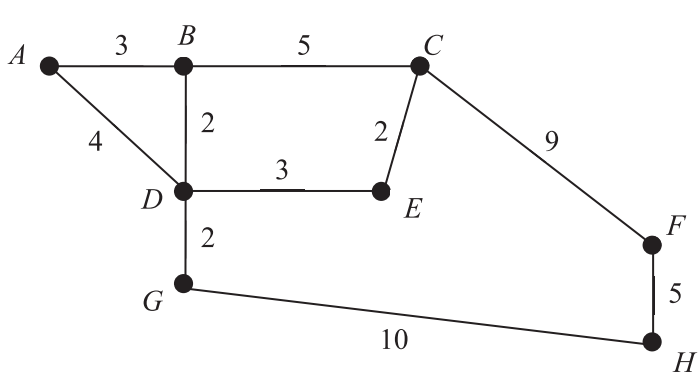
Soalan	Skema markah / Marking Scheme	Marks	
		Submarks	Total Marks
11 (a)		4 marks	9 marks
(b)		5 marks	
12 (a)	$\frac{18-15}{0-8} \text{ or equivalent}$ $-\frac{3}{8} \text{ or equivalent}$ <p><u>Note:</u> 1. Accept correct answer without working for 2 marks.</p>	2 marks  1 mark	7 marks
(b)	$\frac{1}{2}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

Soalan	Skema markah / Marking Scheme	Marks																																																																																
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13 (a)	<table border="1"> <thead> <tr> <th>Batang</th> <th colspan="8">Daun</th> </tr> </thead> <tbody> <tr> <td>9</td> <td>5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>8</td> <td>0</td> <td>2</td> <td>4</td> <td>5</td> <td>5</td> <td>6</td> <td>8</td> <td></td> <td></td> </tr> <tr> <td>7</td> <td>0</td> <td>1</td> <td>2</td> <td>4</td> <td>4</td> <td>5</td> <td>6</td> <td>9</td> <td></td> </tr> <tr> <td>6</td> <td>2</td> <td>7</td> <td>7</td> <td>8</td> <td>8</td> <td>8</td> <td>9</td> <td>9</td> <td></td> </tr> <tr> <td>5</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>4</td> <td>2</td> <td>6</td> <td>9</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>3</td> <td>5</td> <td>8</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table> <p style="text-align: center; border: 1px solid black; display: inline-block; padding: 2px;">3 5 bermaksud 35 kg</p>	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								4 marks	
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14 (a)	$T \propto \frac{1}{x} \quad \text{atau} \quad 6 = \frac{k}{3}$ $T = \frac{18}{x}$	1 mark																																																																																
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14 (c)	<p><u>Graph</u></p> <p>Axes are drawn in the correct direction, uniform scale for <math>0 \leq x \leq 8</math> and <math>0 \leq y \leq 18</math>.</p> <p>5 points and 1 point* plotted accurately</p> <p>Smooth and continuous curve without straight line(s) and passes through all the 6 correct points <math>0 \leq x \leq 8</math> and <math>0 \leq y \leq 18</math>.</p> <p><u>Notes</u> : (1) 5 points plotted correctly award 1 mark (2) Other scale being used, subtract 1 mark</p>	1 mark 2 marks 1 mark	8 marks																																																																															
14 (d)	4	1 mark																																																																																

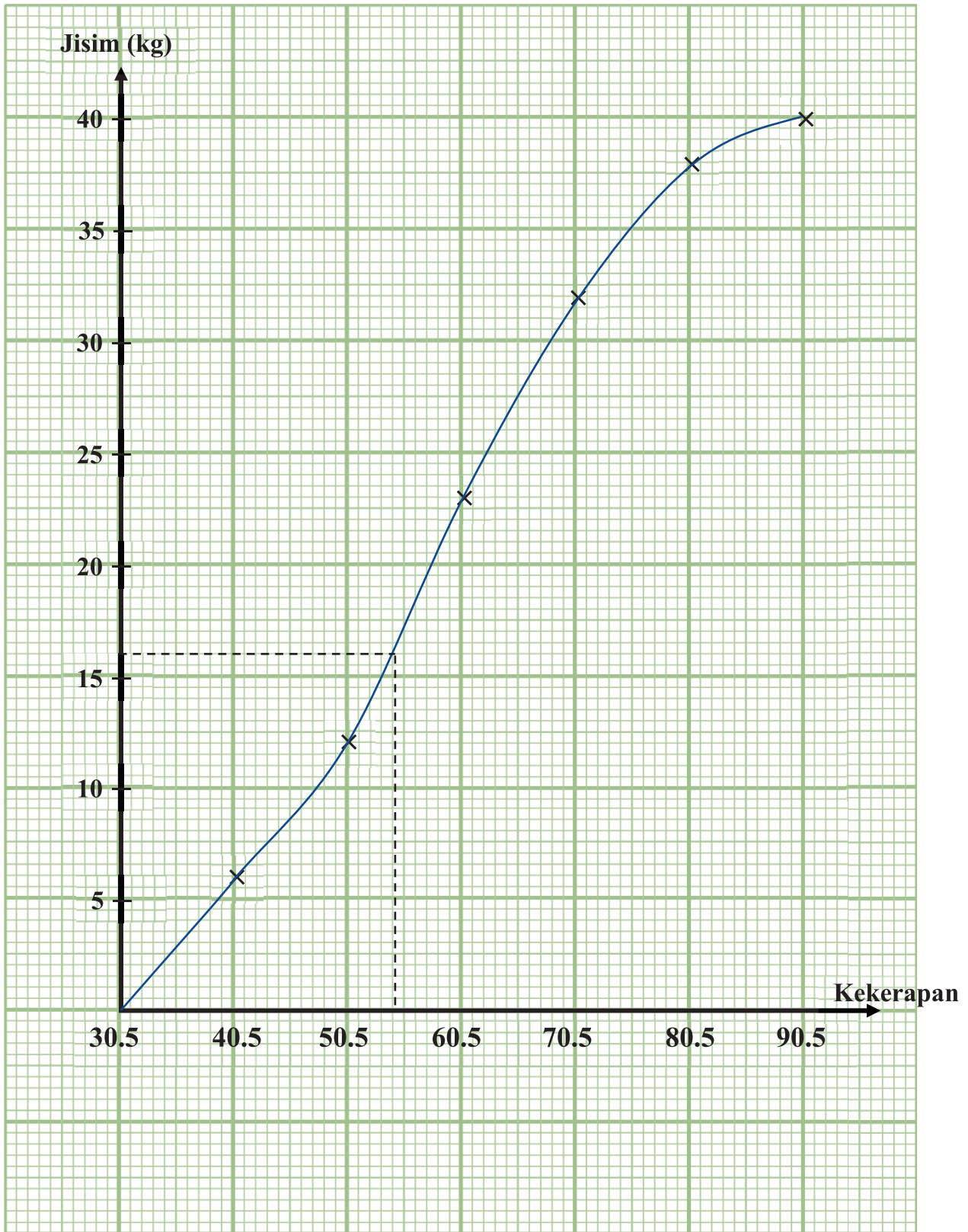
Soalan	Skema markah / Marking Scheme	Marks	
		Submarks	Total Marks
15 (a)	<p>(i) <math>(-2, 0) \rightarrow (0, -2)</math></p> <p>(ii)</p> 	2 marks	11
(b)	<p>(i) pantulan pada garis lurus <math>y = 6</math>  <i>reflection in the line <math>y = 6</math></i>  <u>Note:</u> pantulan // reflection, award 1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

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



Soalan	Skema markah / Marking Scheme	Marks	
		Submarks	Total Marks
17	(a) (i) $152000 \times \frac{90}{100}$ <u>or</u> 136 800 <u>or</u> equivalent	1 mark	15 marks
	$136800 + 136800 \times \frac{2.1}{100} \times 7$ <u>or</u> equivalent	1 mark	
	156 909.60	1 mark	
	(ii) $\frac{156909.60}{7 \times 12}$ <u>or</u> $\frac{190304}{9 \times 12}$ <u>or</u> 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) $280 + (1998 - 1800) \times 0.50$ <u>or</u> equivalent	1 mark	
	379	1 mark	
(c) (i)	 <p><u>Note:</u> 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</p>	2 marks	
(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)

