1449/1 & 2
Matematik
Kertas 1/2
2017

JABATAN PELAJARAN TERENGGANU

BAHAN KECEMERLANGAN 3 / TAHUN 2017

SIJIL PELAJARAN MALAYSIA

MATEMATIK 1449/1/2

Kertas 1 & 2

PERATURAN PEMARKAHAN

$$\textbf{Markah} = \frac{Kertas\,1 + Kertas\,2}{140}$$

Peraturan Pemarkahan ini mengandungi 14 halaman bercetak

Disediakan oleh : Guru AKRAM Negeri Terengganu

SKEMA PERMARKAHAN

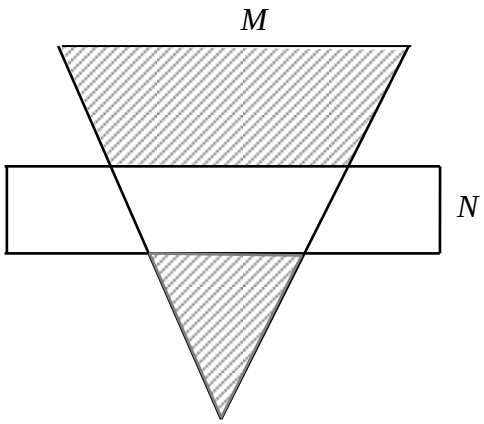
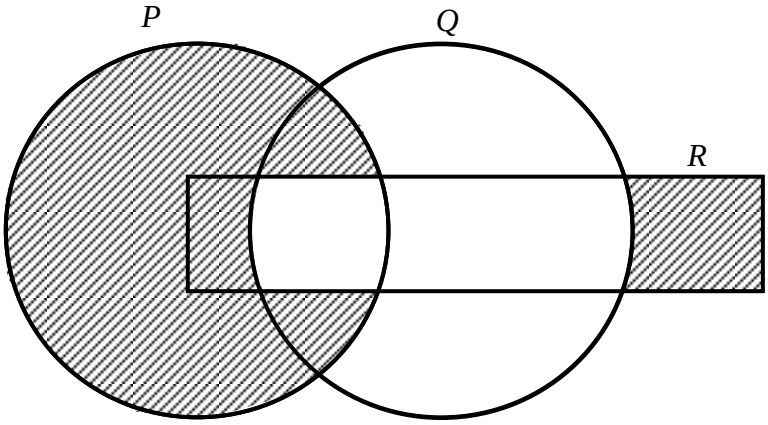
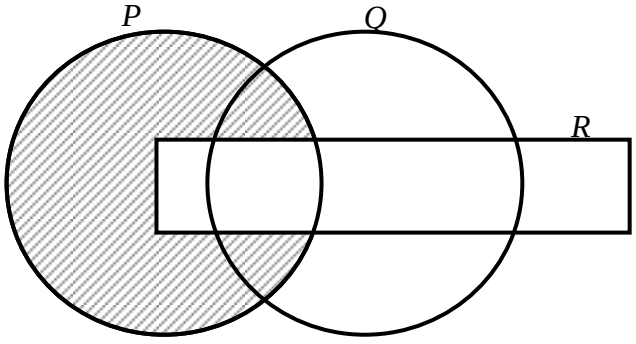
BAHAN KECEMERLANGAN 3 / TAHUN 2017
SIJIL PELAJARAN MALAYSIA

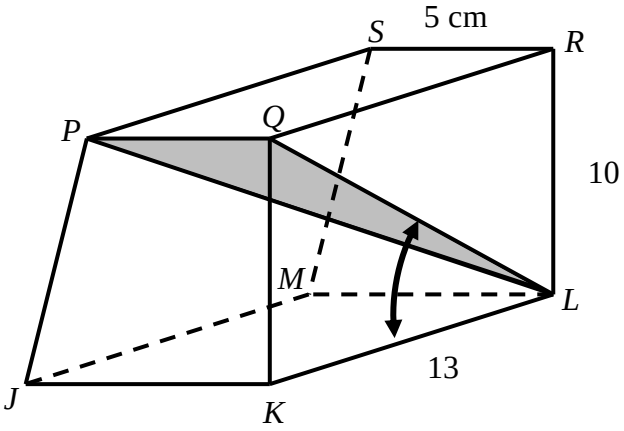
MATEMATIK KERTAS 1

1	**C**	11	**D**	21	**C**	31	**D**
2	**D**	12	**D**	22	**D**	32	**B**
3	**A**	13	**B**	23	**B**	33	**A**
4	**D**	14	**B**	24	**C**	34	**D**
5	**A**	15	**C**	25	**A**	35	**A**
6	**B**	16	**B**	26	**A**	36	**C**
7	**C**	17	**D**	27	**B**	37	**D**
8	**A**	18	**A**	28	**D**	38	**B**
9	**C**	19	**A**	29	**B**	39	**B**
10	**C**	20	**D**	30	**C**	40	**A**

MATEMATIK KERTAS 2

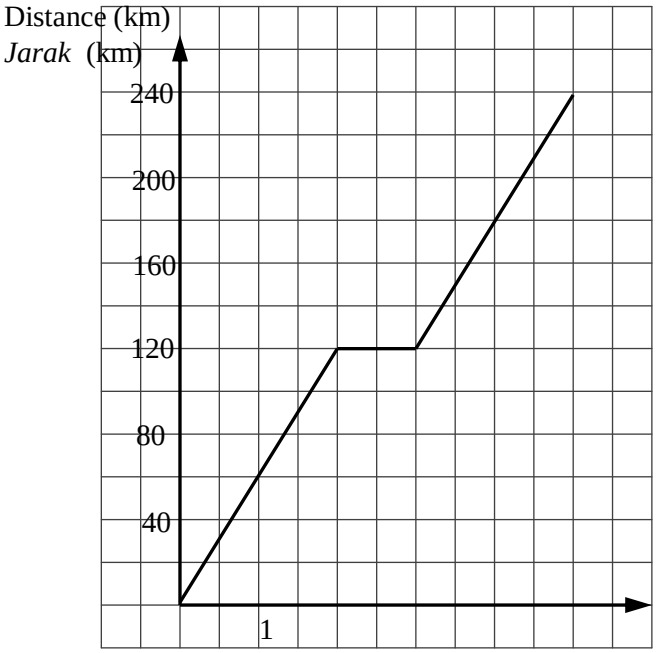
Bahagian A

Soalan	Peraturan Permarkahan	Markah	
1	  Nota  $(P \cap R')$ - bagi P1	**P1** **P2**	**3**

Soalan	Peraturan Permarkahan	Markah	
2	$\frac{9}{2}x^2 - \frac{3}{2}x - 36 = 0 @ 9x^2 - 3x - 72 = 0$ $(x-3)(3x+8) = 0$ $x = 3$	**K1** **K1** **N2**	**4**
3	N + A = 60 N + 2A = 75 A = 15 kg N = 45 kg	**K1** **K1** **N1** **N1**	**4**
4	 $\angle QLK$ *atau* $\angle KLQ$ ditanda betul pada rajah *Tan* $\theta = \frac{10}{13}$ atau setara 37°34' *or* 37.57°	**P1** **K1** **N1**	**3**
5	$12 \times 5 \times 6$ atau 360 $\left(\frac{1}{2} \times (5+9) \times 6\right) \times p$ atau setara $\left(\frac{1}{2} \times (5+9) \times 6\right) \times p + (12 \times 5 \times 6) = 570$ p = 5	**K1** **K1** **K1** **N1**	**4**

6*(a)*	$\frac{4-2}{0-(-3)}$ *atau* *setara*	**K1**	
	$\frac{2}{3}$	**N1**	**2**
(b)	$4=\frac{2}{3}(9)+c$ *atau* *setara*	**K1**	
	$y=\frac{2}{3}x-2$ *atau* *setara*	**N1**	**2**
(c)	*y*-intercept = –2	**K1**	**1**
			5
7*(a)*	i) Palsu……	**P1**	
	ii) Benar……	**P1**	
(b)	Premise 2 / *Premis2:* minnya bukan 5	**P1**	
(b)	$\frac{(7-2)\times 180^\circ}{7}$	**K1**	
	128.57^0	**N1**	**5**
8*(a)*	$\frac{60}{360}\times\frac{22}{7}\times 21^2$ *atau* $\frac{60}{360}\times\frac{22}{7}\times 14^2$ *atau* $\frac{90}{360}\times\frac{22}{7}\times 14^2$	**K1**	
	$\left(\frac{60}{360}\times\frac{22}{7}\times 21^2-\frac{60}{360}\times\frac{22}{7}\times 14^2\right)+\left(\frac{90}{360}\times\frac{22}{7}\times 14^2\right)$	**K1**	
	$282\frac{1}{3}$ *or* 282.33 *or* $\frac{847}{3}$	**K1**	
(b)	$\left(\frac{60}{360}\times 2\times\frac{22}{7}\times 21\right)$ *atau* $\left(\frac{60}{360}\times 2\times\frac{22}{7}\times 14\right)$ *atau* $\left(\frac{90}{360}\times 2\times\frac{22}{7}\times 14\right)$	**K1**	
	$\left(\frac{60}{360}\times 2\times\frac{22}{7}\times 21\right)+\left(\frac{60}{360}\times 2\times\frac{22}{7}\times 14\right)+\left(\frac{90}{360}\times 2\times\frac{22}{7}\times 14\right)+7+7+14+14$	**K1**	
	100.67 *atau setara*	**K1**	**6**

Soalan	Peraturan Permarkahan	Markah	
9*(a)*	$30x + 20y = 140$ or $3x + 2y = 14$ $50x + 40y = 260$ $5x + 4y = 26$	**P1** **P1**	**2**
(b)	$\begin{pmatrix} 30 & 20 \\ 50 & 40 \end{pmatrix}\begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} 140 \\ 260 \end{pmatrix} atau \begin{pmatrix} 3 & 2 \\ 5 & 4 \end{pmatrix}\begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} 14 \\ 26 \end{pmatrix}$	**K1**	
	$\begin{pmatrix} x \\ y \end{pmatrix} = \frac{1}{30(40)-20(50)}\begin{pmatrix} 40 & -20 \\ -50 & 30 \end{pmatrix}\begin{pmatrix} 140 \\ 260 \end{pmatrix} atau$ $\begin{pmatrix} x \\ y \end{pmatrix} = \frac{1}{3(4)-2(5)}\begin{pmatrix} 4 & -2 \\ -5 & 3 \end{pmatrix}\begin{pmatrix} 14 \\ 26 \end{pmatrix}$	**K1**	
	$x = 2$, $y = 4$	**N1N1**	**4**
			6
10*(a)*	$\{G_1G_2, G_1G_3, G_1B_1, G_1B_2, G_2G_3, G_2B_1, G_2B_2, G_3B_1, G_3B_2, B_1B_2\}$	**P2**	
(b)(i)	$\{ G_1G_2, G_1G_3, G_2G_3 \}$ atau SETARA $\frac{3}{10}$	**K1** **N1**	
(ii)	$\{G_1B_1, G_1B_2, G_2B_1, G_2B_2, G_3B_1, G_3B_2, B_1B_2\}$ atau SETARA $\frac{7}{10}$	**K1** **N1**	
			6

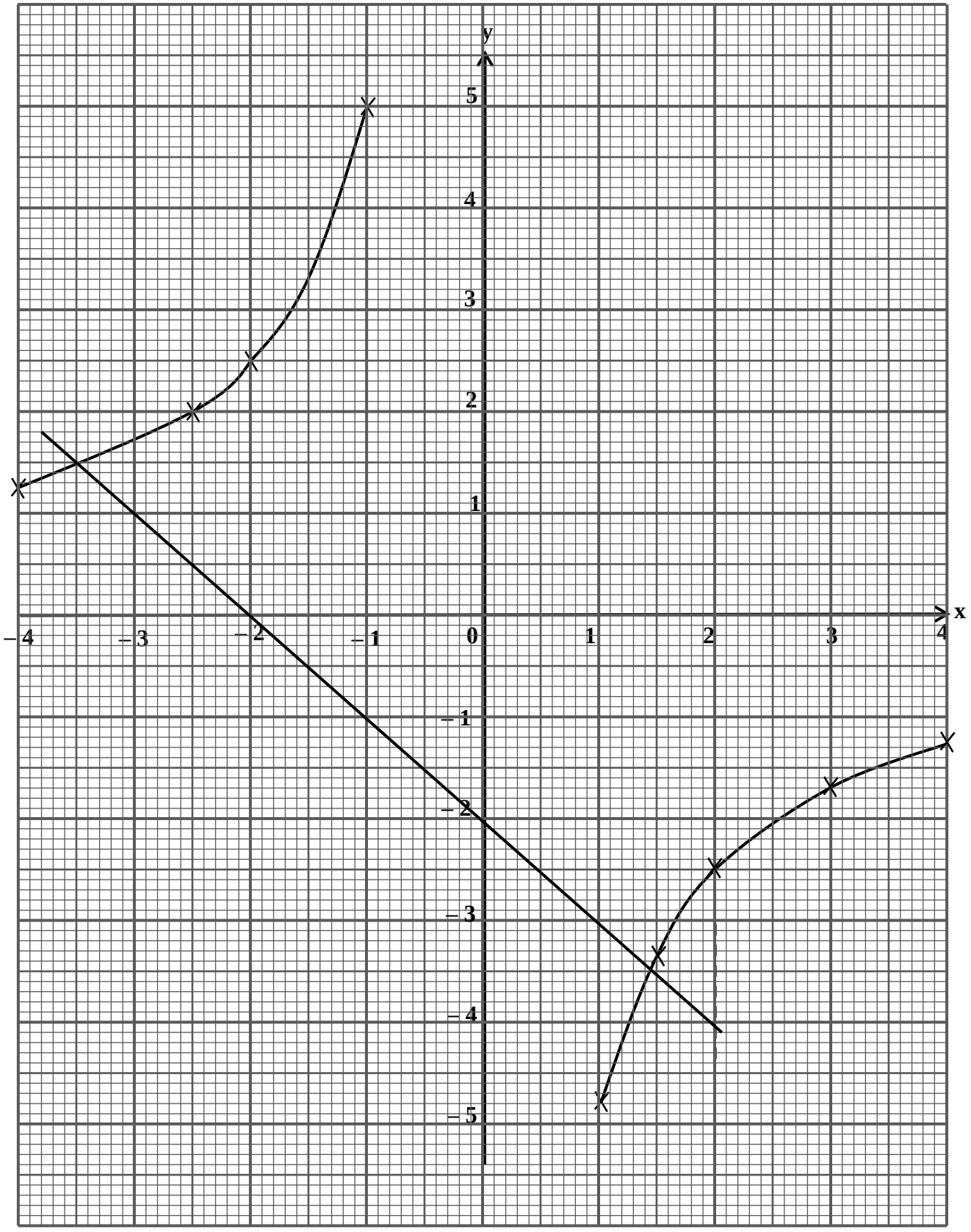
11*(a)*		**P1**	
(b)	(i) 60 minit	**P1**	
(c)	(ii) $\frac{120}{2}$ 60	**K1** **N1**	
	(iii) $\frac{240}{5}$ 48	**K1** **N1**	
			6

Bahagian B

Soalan	Peraturan Permarkahan	Markah	
12*(a)*	Melengkapkan Jadual x : -4, 2 y : 1.25, -2.5	**K1K1**	**2**
(b)	*Graf:*		
	Paksi dilukis dengan arah yang betul, skala seragam dalam $-4 \le x \le 4$ dan $-5 \le y \le 5$.	**P1**	
	6 titik dan 2 titik* ditanda betul dalam $-4 \le x \le 4$.	**K2**	
	Lengkung licin dan berterusan dalam $-4 \le x \le 4$ tanpa bahagian lurus dan melalui 8 titik yang betul.	**N1**	
	Nota: Jika skala lain digunakan, tolak 1 markah daripada markah KN yang diperoleh.		**4**
(c)	(i) $-1.6 \le y \le -1.8$	**P1**	
	(ii) $2.0 \le x \le 2.4$ (2 t.p sahaja)	**P1**	**2**
(d)	garis lurus $y = -x - 2$ dilukis betul pada graf (semak sebarang dua titik yang diplot atau garis lurus yang melalui sebarang dua titik (x, y) yang betul).	**K2**	
	Nota : Kenal pasti persamaan garis lurus $y = -x - 2$ beri K1		
	Nilai x: $1.35 \le x \le 1.55$ $-3.6 \le x \le -3.3$	**N1** **N1**	**4**
			12

12*(b)*

Graph for Question 12/*Graf untuk Soalan* 12



<table>
<tr><th>Soalan</th><th>Peraturan Permarkahan</th><th colspan="2">Markah</th></tr>
<tr><td>13(a)(i)</td><td>(– 2, 9)

(– 8, 9)</td><td>P1

P2</td><td></td></tr>
<tr><td>(ii)</td><td>(– 4, 6) award P1</td><td></td><td>3</td></tr>
<tr><td>(b)(i)</td><td>M = Rotation of 90°, anti clockwise about the centre (– 1,10). or
Rotation of 270°, clockwise about the centre (– 1,10)

Note: Rotation award P1</td><td>P3</td><td></td></tr>
<tr><td>(ii)</td><td>N = Enlargement, scale factor 3, centre A(2, 2)

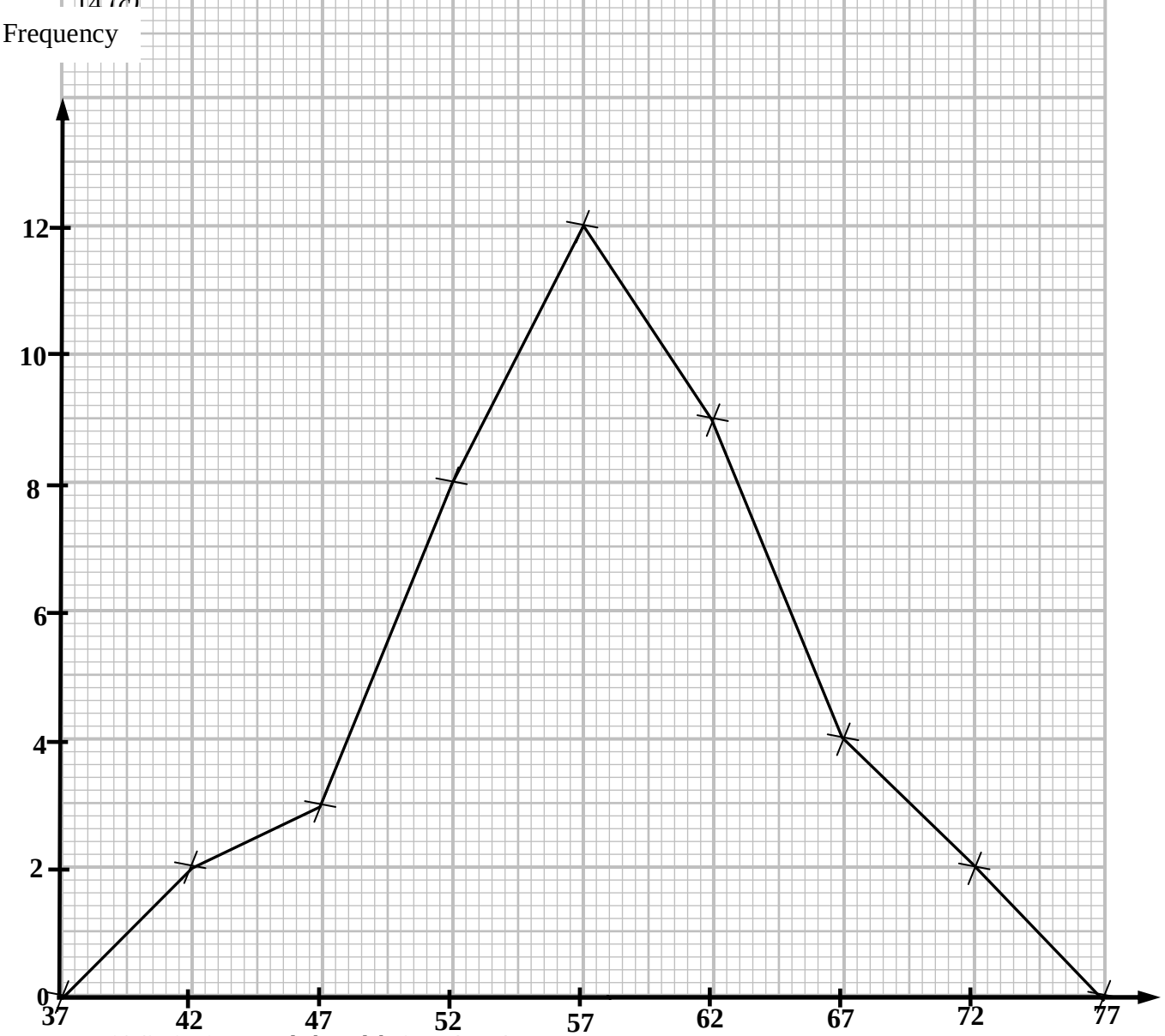
Note: Enlargement award P1</td><td>P3</td><td>6</td></tr>
<tr><td>(c)(i)</td><td>$\frac{180+x}{x}=3^2$

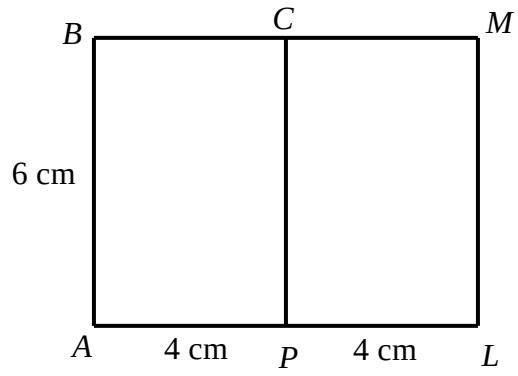
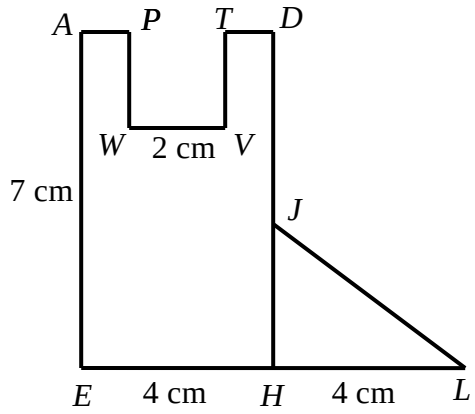
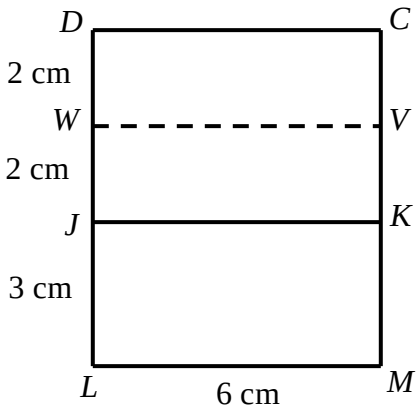
Note: $\frac{180+x}{x}=\left(3^2\right)^*$ award K1</td><td>K2</td><td></td></tr>
<tr><td>(ii)</td><td>22.5 or $\frac{45}{2}$ or $22\frac{1}{2}$</td><td>N1</td><td>3
12</td></tr>
<tr><td>14(a)</td><td>
<table>
<tr><th>Mass (kg)
Jisim (kg)</th><th>Frequency
Kekerapan</th><th>Mid Point
Titik Tengah</th></tr>
<tr><td>35 – 39</td><td>0</td><td>37</td></tr>
<tr><td>40 – 44</td><td>2</td><td>42</td></tr>
<tr><td>45 – 49</td><td>3</td><td>47</td></tr>
<tr><td>50 – 54</td><td>8</td><td>52</td></tr>
<tr><td>55 – 59</td><td>12</td><td>57</td></tr>
<tr><td>60 – 64</td><td>9</td><td>62</td></tr>
<tr><td>65 – 69</td><td>4</td><td>67</td></tr>
<tr><td>70 – 74</td><td>2</td><td>72</td></tr>
</table>
Mass
Frequency
Midpoint</td><td>P1
P1
P1</td><td>4</td></tr>
</table>

(b)	(i) 55 – 59	**P1**	
	(ii) $\frac{(42\times *2)+(47\times *3)+(52\times *8)+(57\times *12)+(62\times *9)+(67\times *4)+(72\times *2)}{*2+*3+*8+*12+*9+*4+*2}$ Note: 1.Accept $\frac{(42\times *2)+(47\times *3)+(52\times *8)+(57\times *12)+(62\times *9)+(67\times *4)+(72\times *2)}{40}$ bagi **K2** 2. Allow two mistakes in midpoint and/or frequency for K1. 3. Allow two mistakes for the products of frequency and midpoint for K1.	**K2**	
	$\frac{459}{8}$ *or* $57\frac{3}{8}$ *or* 57.38 Note: Correct answer from incomplete working, award Kk2 e.g $\frac{2295}{40}$ = 57.38	**N1**	
(c)	Frequency Polygon Axes drawn in the correct directions with uniform scale for $37 \le x \le 77$ dan $0 \le y \le *12$.	**P1**	
	All *9 points correctly plotted	**K2**	
	Frequency polygon correct Note: 1. 8 and 7 points correctly plotted, award K1	**N1**	
(d)	67.5% Note: 1.Do not accept answer without frequency polygon.	**K1**	**12**

Graf untuk Soalan 14

14 (c)



Soalan	Peraturan Permarkahan	Markah	
15*(a)*		**K1** **K1** **N1**	**3**
(b)	 $AP = TD = 1$ cm	**K1** **K1** **N2**	**4**
(c)		**K1** **K1** **K1** **N2**	**5**
			12

Soalan	Peraturan Permarkahan	Markah	
16*(a)*	145^{o}B	**P1P1**	**2**
(b)	$\frac{3300}{60'}@55^{\circ}$	**K1**	
	$55^{\circ}-25^{\circ}$ $30^{\circ}S$	**K1** **N1**	**3**
(c)	$(180^{\circ}-25^{\circ}-25^{\circ})\times 60'@(180^{\circ}-50^{\circ})\times 60'@130^{\circ}\times 60'$ 7800 b.n	**K1** **N1**	**2**
(d)	(i) $(35^{\circ}+40^{\circ})\times 60'\times kos\ 25^{\circ}$ 4078.39 b.n	**K2** **N1**	**3**
	(ii) $\frac{3300+4078.39}{12.4}$	**K1**	
	595.03 knot	**N1**	**2**
			12

SKEMA PEMARKAHAN TAMAT