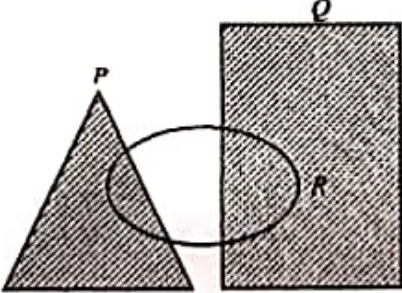
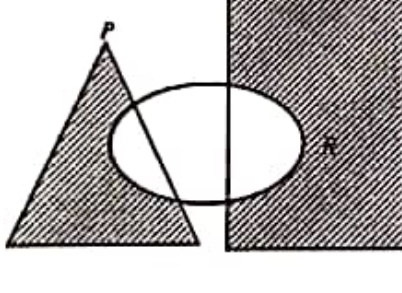
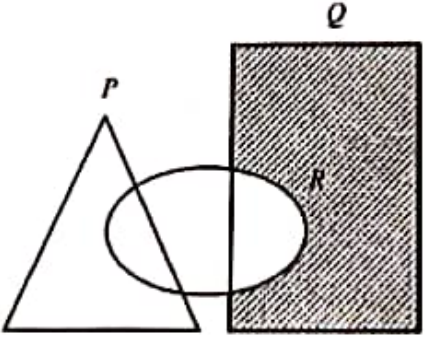


MATEMATIK KERTAS 2

BAHAGIAN A

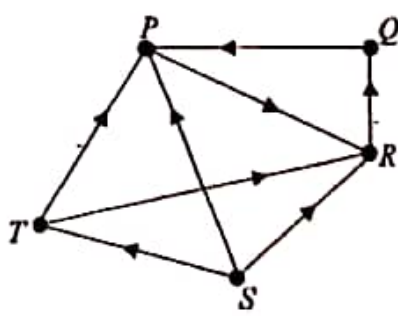
Soalan	Peraturan Permarkahan	Markah	
1	a) $y < 2$ b) $x \geq -2$ c) $2x - 3y - 3 \geq 0$ atau setara / or equivalent	1m 1m 1m	3
2	a) 5 b) 1 c) -4	1m 1m 1m	3
3	(a) Songsangan : Jika perimeter pentagon sekata PQRST bukan 30 cm, maka sisi pentagon sekata PQRST bukan 6 cm. <i>Inverse</i> : If the perimeter of regular pentagon PQRST is not 30 cm, then the side of regular pentagon PQRST is not 6 cm. Nilai kebenaran : Benar <i>Truth value</i> : True (b) Sah tetapi tidak munasabah kerana kesimpulan adalah palsu. <i>Valid but not sound because the conclusion is not true.</i>	1m 1m 1m 1m 1m	5
4	$2x + 5y = 51$ atau / or $3x + 8y = 79.50$ $\begin{pmatrix} 2 & 5 \\ 3 & 8 \end{pmatrix} \begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} 51 \\ 79.50 \end{pmatrix}$ $\begin{pmatrix} x \\ y \end{pmatrix} = \frac{1}{(2)(8) - (5)(3)} \begin{pmatrix} 8 & -5 \\ -3 & 2 \end{pmatrix} \begin{pmatrix} 51 \\ 79.50 \end{pmatrix}$ Harga 1 kotak pelitup muka adalah RM 10.50 <i>The price for a box of face mask is RM 10.50</i>	1m 1m 1m 1m	4

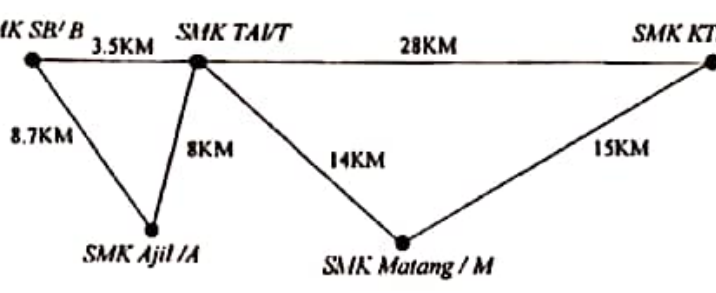
Soalan	Peraturan Pemarkahan	Markah	
<p>5</p>	<p>1430 × 12 × 12 atau / or 1250 × 16 × 12</p> <p>$\frac{205920 - 150000}{150000 \times 12} \times 100$ atau / or $\frac{240000 - 150000}{150000 \times 16} \times 100$</p> <p>Atau setara for equivalent</p> <p>Bank Restu kerana menawarkan kadar faedah yang lebih rendah iaitu 3.11</p> <p>Bank Restu because they offer lower interest rate which is 3.11</p> <p>Note: Bank Restu dilihat, beri 1m / Bank Restu seen, award 1m</p>	1m	
		1m	
		2m	4
<p>6 (a)</p>		1m	
<p>(b)</p>		2m	3
	<p>Nota / Note:</p> <p>Beri 1 markah bagi / Award 1m for</p> 		

Soalan	Peraturan Pemarkahan	Markah	
<p>7 (a) $-\frac{1}{3}$</p> <p>$4 = -\frac{1}{3}(6) + c$</p> <p>$y = -\frac{1}{3}x + 6$</p> <p>(b) $0 = -\frac{1}{3}x + 6$</p> <p>Pintasan- x / x-intercept = 18</p>		<p>1m</p> <p>1m</p> <p>1m</p> <p>1m</p> <p>1m</p>	<p>5</p>
<p>8 (a)</p> <div data-bbox="399 694 1117 1344"> </div> <p>(b) $\frac{4}{12} \times \frac{3}{11}$</p> <p>$\frac{12}{132} @ \frac{1}{11}$</p>		<p>1m</p> <p>1m</p> <p>1m</p> <p>1m</p>	<p>5</p>
<p>9 (a) 10 atau /or 12 atau / or 8</p> <p>45</p> <p>(b) 100_3</p> <p>Nota / Note: $\frac{45}{5}$ dilihat, beri 1m / $\frac{45}{5}$ seen, award 1m</p>		<p>1m</p> <p>1m</p> <p>2m</p>	<p>4</p>

Soalan	Peraturan Pemarkahan	Markah
10	$J = \frac{kx^2}{y}$ $40 = \frac{k(4)^2}{2} \text{ atau / or } 5$ $60 = \frac{5(6)^2}{y}$ $m = 3$ <p>NOTA / NOTE :</p> $\frac{40(2)}{(4)^2} = \frac{60(m)}{(6)^2}$ <p>Beri / award 2m</p>	1m 1m 1m 1m <hr/> 4m

BAHAGIAN B

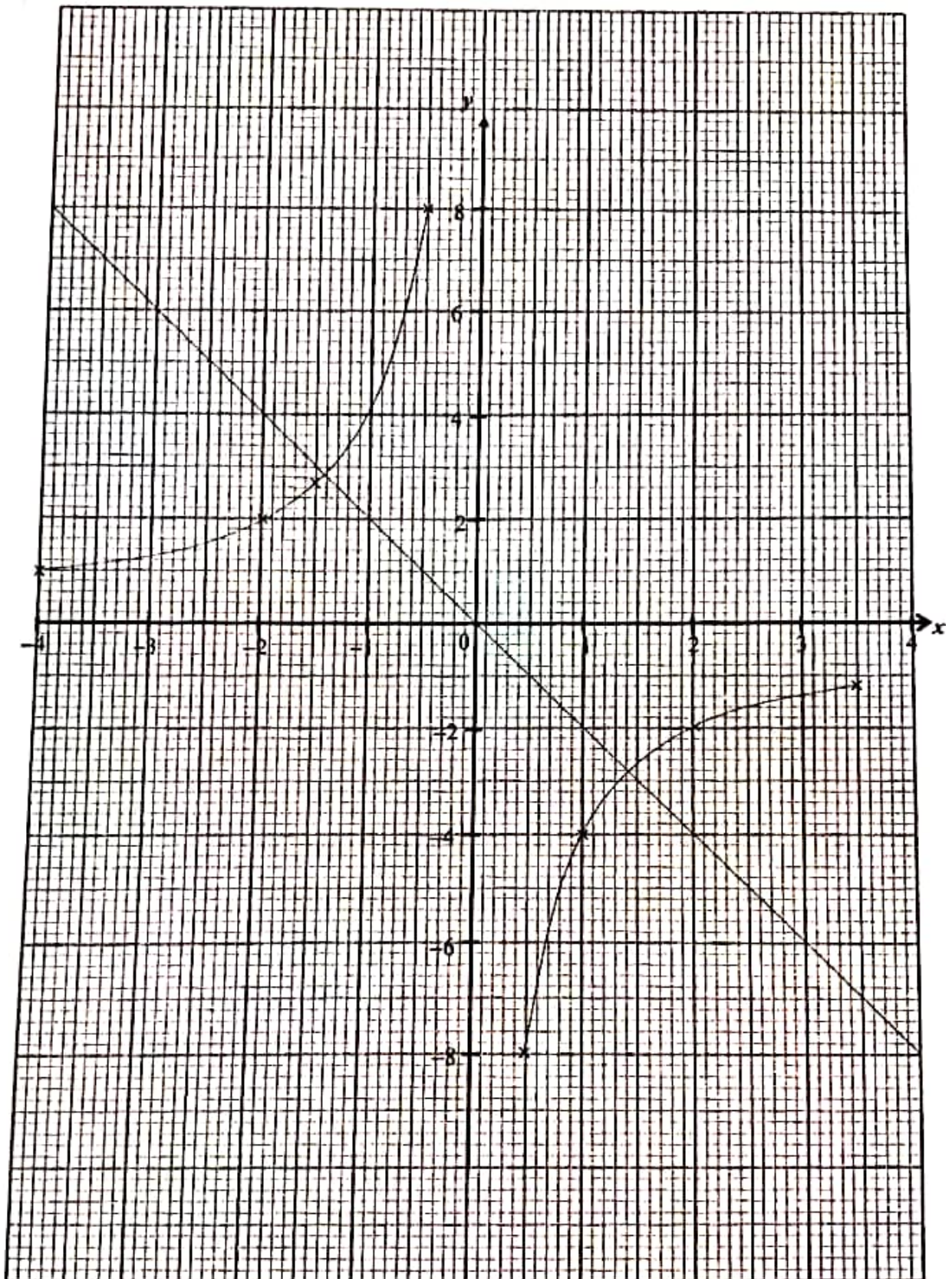
Soalan	Peraturan Pemarkahan	Markah
11 (a)	(i) $n(V) = 4$ (ii) $E = \{ AB, AC, AD, BB, BC, CD, CD \}$ atau setara / or equivalent	1m 1m
(b)	 <p>Nota / Notes:</p> <ol style="list-style-type: none"> Graf mudah yang setara terima <i>Accept any equivalent simple graph</i> Graf dengan label betul tanpa berarah diberi 1m <i>Award 1m for labelled graph without direction</i> 	2m

Soalan	Peraturan Permarkahan	Markah	
<p>(c)</p>	<p>(i) 5 bucu/ vertices</p>  <p>(ii) <i>Nota / Note:</i></p> <ol style="list-style-type: none"> Graf mudah yang setara terima <i>Equivalent simple graph accepted</i> Graf dengan label betul tanpa pemberat diberi 1m <i>Award 1m for labelled graph without weighed</i> <p>(iii) $d(T) = 4$ Terdapat 4 jalan yang menghubungkan semua tempat dari SMK Tengku Ampuan Intan <i>There are 4 ways that connected all of other places from SMK Tengku Ampuan Intan</i></p>	1m	
		2m	
		1m	
		1m	
			9
<p>12</p>	<p>(a) 8</p> <p>(b) (i) 8×12 96</p> <p>(ii) $\left(\frac{1}{2}\right)(12+v) \times (8)$ atau 4×12 atau setara / or equivalent</p> $\frac{\left(\frac{1}{2}(12+v) \times 8\right) + (4 \times 12)}{12} = 14 \text{ atau setara / or equivalent}$ <p>18</p> <p>(c) Kereta bergerak sejauh 216 m dengan laju purata 13.5 ms^{-1} dalam tempoh 16 saat <i>The car travels along 216 m with an average speed of 13.5 ms^{-1} in 16 seconds</i></p>	1m	
		1m	
		1m	
		1m	
		1m	
		3m	9

Soalan	Peraturan Permarkahan	Markah
13	<p>Aidil :</p> $\text{Min / Mean} = \frac{25.77 + 25.34 + 25.56 + 25.97 + 26}{5}$ $= 25.728$ <p>Sisihan Piawai / <i>Standard Deviation</i></p> $= \sqrt{\frac{25.77^2 + 25.34^2 + 25.56^2 + 25.97^2 + 26^2}{5} - 25.728^2}$ $= 0.250$ <p>Zakwan:</p> $\text{Min / Mean} = \frac{25.01 + 25.83 + 26.02 + 25.80 + 25.98}{5}$ $= 25.728$ <p>Sisihan Piawai / <i>Standard Deviation</i></p> $= \sqrt{\frac{25.01^2 + 25.83^2 + 26.02^2 + 25.80^2 + 25.98^2}{5} - 25.728^2}$ $= 0.369$ <p>Aidil akan dipilih. <i>Aidil will be selected.</i></p>	<p>1m</p> <p>1m</p> <p>1m</p> <p>1m</p> <p>1m</p> <p>1m</p> <p>1m</p> <p>1m</p> <p>1m</p> <hr/> <p>9</p>

Soalan	Peraturan Permarkahan	Markah	
14 (a)	(i) $63.4^\circ - 63.5^\circ$	1m	
	(ii) $\sqrt{8^2 + 4^2}$ atau setara / or equivalent 8.94	1m 1m	
	(b) (i) $\left(2 \times \frac{22}{7} \times 5\right) + 5 + 5 + 8 + 8.94$	2m	
	Note: $2 \times \frac{22}{7} \times 5$ dilihat beri 1m / seen, award 1m		
	$58.37 @ 58 \frac{129}{350} @ \frac{20429}{350}$	1m	
	(ii) $\left(\frac{22}{7} \times 5^2\right) - \left(\frac{1}{2} \times 8 \times 4\right) - \left(\frac{1}{2} \times 4 \times 3\right)$	2m	
	Note: $\frac{22}{7} \times 5^2$ or $\frac{1}{2} \times 8 \times 4$ atau / or $\frac{1}{2} \times 4 \times 3$ dilihat / seen award 1m		
	$56.57 @ 56 \frac{4}{7} @ \frac{396}{7}$	1m	<hr/> 9

Soalan	Peraturan Permarkahan	Markah	
15 (a)	<p>Graf / Graph:</p> <p>8 titik diplot dengan betul <i>All 8 points are correctly plotted</i></p> <p>Nota / Note: 6 @ 7 titik diplot dengan betul 1m <i>6 @ 7 points are correctly plotted, 1m</i></p> <p>Graf licin dan berterusan dalam skala $-4.0 \leq x \leq 3.5$, abaikan garis lurus dan melalui semua 8 titik dengan betul <i>Smooth curve and continuously in range of $-4.0 \leq x \leq 3.5$ with no straight line part and passing through all the correct 8 points.</i></p>	2m	
(b)	(i) $5.4 \leq y \leq 5.8$		1m
	(ii) $0.7 \leq x \leq 0.9$	1m	
(c)	<p>Garis lurus $y = -2x$ dan tepat $\pm \frac{1}{2}$ segi empat sama secara menegak. <i>Straight line $y = -2x$ and accurate to $\pm \frac{1}{2}$ square grid vertically.</i></p> <p>Nota / Note : Kenalpasti $y = -2x$, 1m / <i>Identify the equation $y = -2x$, 1m</i></p> <p>$-1.45 \leq x \leq -1.35$</p> <p>$1.35 \leq x \leq 1.45$</p> <p>Nota / Note:</p> <p>1. Berikan 1m jika nilai x ditunjukkan di dalam graf <i>Allow 1m if the values of x are shown on the graph.</i></p> <p>2. Nilai-nilai x yang diperoleh daripada pengiraan 0m. <i>The values of x obtained by calculation, give 0m.</i></p>	2m	
			1m
		1m	
			<hr/> 9



Bahagian C

Soalan	Peraturan Permarkahan	Markah	
16 (a)	$(125 + 125) \times 2 \times 4 \times 0.80$ 1600	1m 1m	
	(b)	S Khusus / Specific : Untuk membeli sebuah basikal lipat. <i>To buy a folding bike.</i>	1m
		M Boleh diukur / Measureable : Harga basikal lipat adalah RM 4800 dan akan dibeli dalam tempoh 3 bulan <i>The price of the folding bike is RM 4800 and to be purchased within 3 months.</i>	1m
		A Boleh dicapai / Attainable : Elaun bulanan minima RM 1600 dalam tempoh 3 bulan untuk membeli basikal lipat. <i>Minimum monthly allowance of RM 1600 for 3 months to buy the folding bike.</i>	1m
		R Bersifat realistik / Realistic : Sejumlah RM 4800 boleh dikumpul dalam tempoh 3 bulan dengan menggunakan sumber elaun. Dengan andaian dia berjalan sejauh minima 500 km seminggu dan kadar elaun perjalanan ialah RM0.80 setiap km. <i>The amount of RM 4800 can be accumulated over 3 months using the allowance earned. Considering he travels at least 500 km per week and the travel allowance rate is RM 0.80 per km.</i>	1m
		T Tempoh masa / Time-bound : 3 bulan untuk membeli basikal lipat. <i>3 months to buy a folding bike</i>	1m

Soalan	Peraturan Permarkahan	Markah	
<p>(c)</p> <p>(i) $\frac{250000}{1000} \times 1.563$ 390.75</p> <p>(ii) Ali = RM 1500 Syarikat insurans = RM 500</p> <p>(d) Cukai jalan Iriz = RM 90 Cukai jalan Perdana:</p> <p>$280 + (1999 - 1800) \times 0.50$ RM379.50</p> <p>Nota / Note : 280 atau <i>lor</i> $(1999 - 1800) \times 0.50$ dilihat beri / <i>seen award</i> 1m</p>		1m 1m	
		1m 1m	
		1m	
		2m 1m	
			15
<p>17 (a)</p>	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>Dongakan arah Y <i>Elevation from Y</i></p> </div> <div style="text-align: center;"> <p>Dongakan arah X <i>Elevation from X</i></p> </div> </div>		

Soalan	Peraturan Permarkahan	Markah	
	<p>(i) Pandangan dari X / Elevation from X Bentuk betul dengan segiempat BPST dan ABFE <i>Correct shape with rectangles BPST and ABFE.</i></p> <p>Semua garis padu / <i>All solid lines,</i> $AP > PS > ST = TF = FE > EA$</p> <p>Ukuran tepat ± 0.2 cm (sehala) dan semua sudut $90^\circ \pm 1^\circ$ <i>Measurements correct to ± 0.2 cm (one way) and all angles at vertices = $90^\circ \pm 1^\circ$</i></p>	1m	
		1m	
		2m	
	<p>(ii) Pandangan dari Y / Elevation from Y Bentuk betul dengan trapezium PQRS dan segitiga bersudut tegak PFV <i>Correct shape with trapezium PQRS and right-angled triangle PFV.</i></p>	1m	
	<p>Semua garis padu (abaikan VG) / <i>All solid lines. (Ignore VG)</i></p>	1m	
	<p>V – G bergabung dengan garis putus-putus untuk membentuk trapezium PQRS</p>	1m	
	<p><i>V – G joined by a dashed line to form trapezium PQRS.</i></p>		
	<p>$PQ = QR > RS > PF > FV$</p>	2m	
	<p>Ukuran tepat ± 0.2 cm (sehala) dan semua sudut $90^\circ \pm 1^\circ$ <i>Measurements correct to ± 0.2 cm (one way) and all angles at vertices = $90^\circ \pm 1^\circ$</i></p>		
(b)	$\tan \theta = \frac{5}{2}$	1m	
	68.20°	1m	
(c)	$2 \times 3 \times 5$	1m	
	$\frac{1}{2} \times (5+3) \times 5 \times 3$	1m	
	$2 \times 3 \times 5 + \frac{1}{2} \times (5+3) \times 5 \times 3$	1m	
	90	1m	
			<hr/> 15

SKEMA PEMARKAIIAN TAMAT