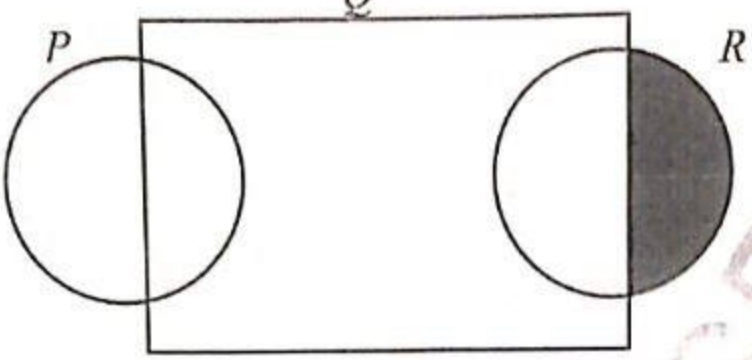
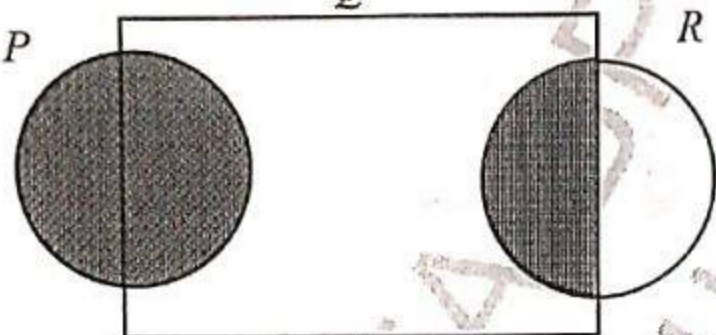
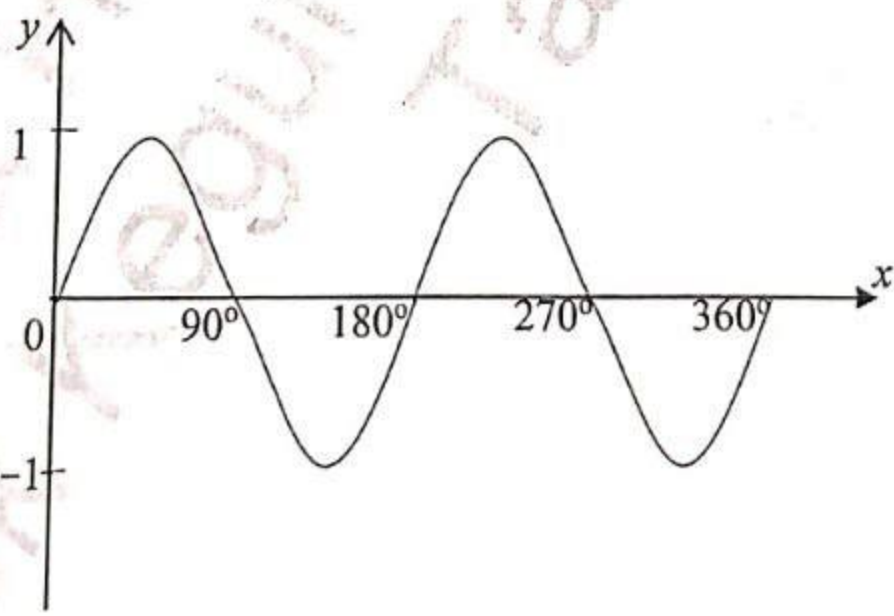


### JAWAPAN KERTAS 1

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

Pilihan jawapan	Jumlah
A	4
B	16
C	14
D	6

SKEMA PEMARKAHAN KERTAS 2

No	Pemarkahan	Markah	Jumlah
1	(a) 	P1	
	(b) 	P2	3
2	<p>Luas segi tiga = <math>\frac{1}{2}(2x - 8)(x - 3)</math>  <math>= x^2 - 7x + 12</math>  <math>x^2 - 7x + 12 = 30</math>  <math>x^2 - 7x - 18 = 0</math>  <math>(x - 9)(x + 2) = 0</math>  <math>x = 9, x = -2</math>                      Panjang / length = <math>2(9) - 1 = 17</math> cm</p>	K1 K1 K1 N1	4
3		P1 P1 P1	3

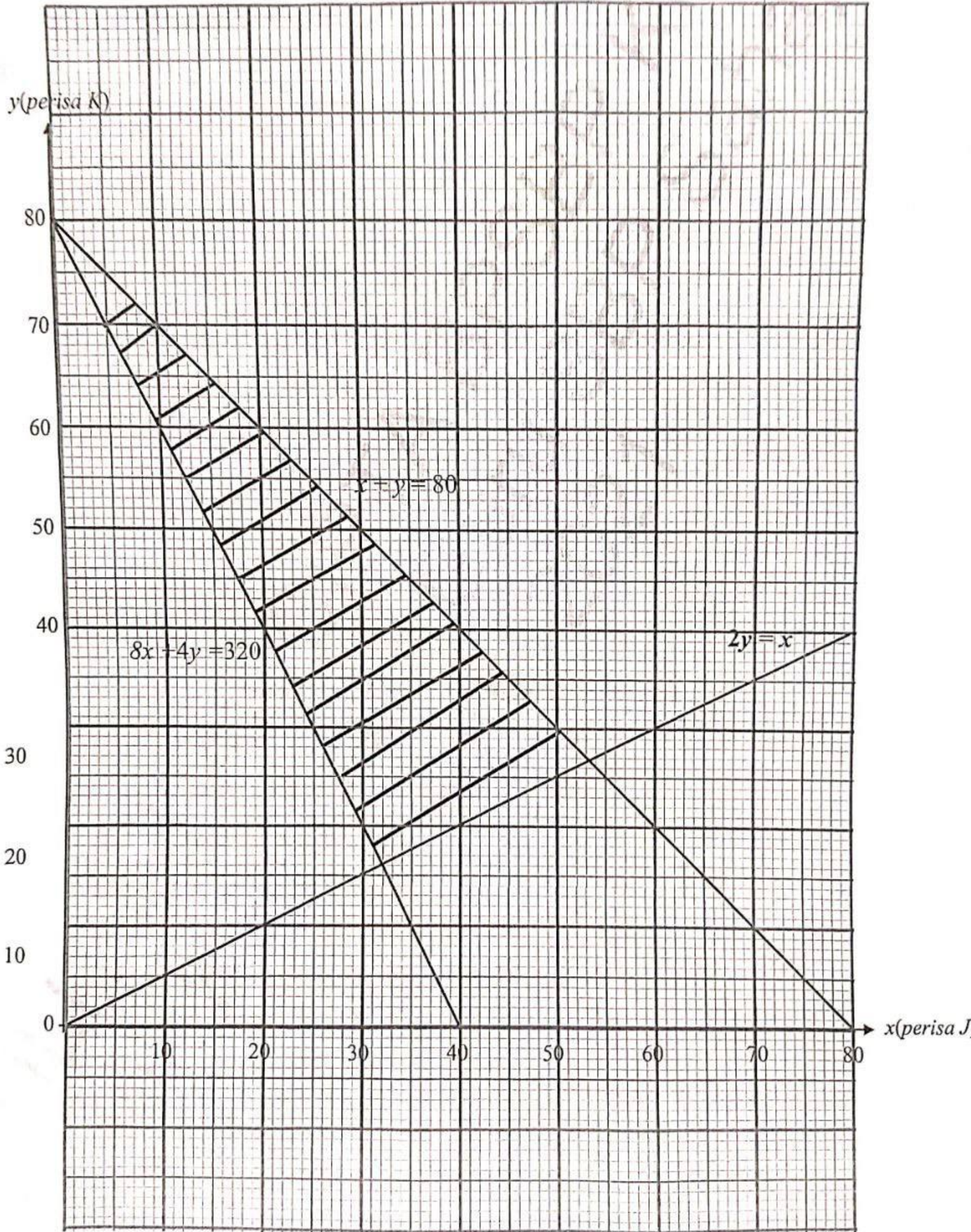
No	Pemarkahan	Markah	Jumlah
4	<p><math>x</math> – keuntungan mesin pencetak <math>X</math> pada tahun 2019 <sup>2020</sup>  <i>the profit of printer <math>X</math> in 2019</i> <sup>2020</sup></p> <p><math>y</math> – keuntungan mesin pencetak <math>Y</math> pada tahun 2019 <sup>2020</sup>  <i>the profit of printer <math>Y</math> in 2019</i> <sup>2020</sup></p> <p><math>x + y = 450000</math></p> <p><math>1.3x + 0.95y = 497500</math></p> <p><math>x = 450000 - y</math></p> <p><math>1.3(450000 - y) + 0.95y = 497500</math></p> <p><math>585000 - 1.3y + 0.95y = 497500</math></p> <p><math>-0.35y = -87500</math></p> <p><u><math>y = 250000</math></u></p> <p><del><math>x</math></del> <math>x = 450000 - 250000</math></p> <p><u><math>x = 200000</math></u></p> <p>keuntungan mesin pencetak <math>X</math> pada tahun 2020 <sup>2021</sup>  <i>the profit of printer <math>X</math> in 2020</i> <sup>2021</sup></p> <p><del><math>x</math></del> <math>= 1.3 \times 250000</math> <sup>200000</sup> <math>= 1.3 \times 200000</math></p> <p><math>= 325000</math> <sup>237500</sup> <math>= \text{RM } 260000</math></p> <p>keuntungan mesin pencetak <math>Y</math> pada tahun 2020 <sup>2021</sup>  <i>the profit of printer <math>Y</math> in 2020</i> <sup>2021</sup></p> <p><del><math>y</math></del> <math>= 0.95 \times 250000</math> <math>= 0.95 \times 250000</math></p> <p><math>= 237500</math> <math>= \text{RM } 237500</math></p>	<p>K1</p> <p>K1</p> <p>K1</p> <p>N1</p> <p>N1</p>	<p>5</p>
5	<p>Pendapatan bercukai / <i>Chargeable income</i></p> <p><math>= \text{RM}52\,000 - (\text{RM}9\,000 + \text{RM}5\,000 + \text{RM}2\,500)</math></p> <p><math>= \text{RM}52\,000 - \text{RM}16\,500</math></p> <p><math>= \text{RM}35\,500</math></p> <p>Tidak layak / <i>Not eligible</i></p> <p>Pendapatan bercukainya melebihi <math>\text{RM}35\,000</math>.</p> <p><i>His chargeable income exceeds RM35 000.</i></p>	<p>K1</p> <p>N1</p> <p>P1</p> <p>P1</p>	<p>4</p>
6	(a) 2	N1	3
	(b) $2 \times 3^2$ $= 18$	K1 N1	

No	Pemarkahan	Markah	Jumlah
7	(a) Jika $9 + 7 \times 6 \neq 96$ , maka $7 \times 6 \neq 42$ If $9 + 7 \times 6 \neq 96$ , then $7 \times 6 \neq 42$	P1	4
	(b) <del>suatu</del> set mempunyai 6 unsur A set has 6 elements	K1	
	(c) $4(n^2) - 2$ $n = 1, 2, 3, 4, \dots$	K1 N1	
8	(a) $y = 10$	N1	4
	(b) $m = \frac{8}{5}$	K1	
	$10 = \frac{8}{5}(10) + c$ or $c = -6$	K1	
	$y = \frac{8}{5}x - 6$	N1	
9	(a) $(5\ 200 + 900) - (1\ 000 + 1\ 200 + 680 + 300 + 250 + 520)$ <u>2150</u>	K1 N1	5
	(b) $\left[ 30\ 000 \times \frac{3.7}{100} \times 7 \right] + 30\ 000 = 37\ 770$	K1	
	$\frac{37\ 770}{7 \times 12} = 449.64$	K1	
	En Rahman mampu membayar ansuran kereta untuk anaknya kerana dia mempunyai aliran positif iaitu RM 2150 @ apa-apa jawapan yang setara.	N1	
	<i>interest 3% for 7 yr</i>		
10	(a) $m = 4$ $n = -5$	N1 N1	5
	(b) $\begin{pmatrix} 3 & 2 \\ 5 & 4 \end{pmatrix} \begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} 24 \\ 44 \end{pmatrix}$	P1	
	<u>Nota:</u> Terima sebarang simbol untuk mangga dan rambutan		
	$\frac{1}{(3)(4) - (5)(2)} \begin{pmatrix} 4 & -2 \\ -5 & 3 \end{pmatrix} \begin{pmatrix} 24 \\ 44 \end{pmatrix}$ atau $\begin{pmatrix} \text{matrik} \\ \text{songsang} \end{pmatrix} \begin{pmatrix} 24 \\ 44 \end{pmatrix}$	K1	
	Harga mangga = RM4	N1	
<u>Nota:</u> 1. Jangan terima $\begin{pmatrix} \text{matrik} \\ \text{songsang} \end{pmatrix} = \begin{pmatrix} 3 & 2 \\ 5 & 4 \end{pmatrix}$ <u>atau</u> $\begin{pmatrix} \text{matriks} \\ \text{sonsang} \end{pmatrix} = \begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}$ 2. $x = 4, y = 6$ <u>atau</u> $\begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} 4 \\ 6 \end{pmatrix}$ sahaja sebagai jawapan akhir, beri N1. 3. Jangan terima sebarang penyelesaian yang tidak menggunakan kaedah matriks.			

No	Pemarkahan		Markah	Jumlah	
11	(a)	(i)	$\{(P,S), (P,S), (S,Q), (S,Q), (S,R), (P,Q), (P,R), (Q,R), (R,R)\}$	K1	
		(ii)	$2(9)$	K1	
			18	N1	
(b)	(i)			K2	
				K1	
				N1	
		$2+5+2+1+2$		K1	
		12 km	N1	9	

No	Pemarkahan	Markah	Jumlah
12	(a) $\frac{40-20}{0-t} = \frac{40-0}{0-25}$ $20 = 1.6t$ $t = 12.5 / \frac{25}{2}$	K1	
	(b) 2.5 minit / minutes	N1	
	(c) $\frac{40}{\left(\frac{25}{60}\right)}$ atau / or $\frac{40}{\left(\frac{30}{60}\right)}$ $\frac{40}{\left(\frac{25}{60}\right)} - \frac{40}{\left(\frac{30}{60}\right)}$ $= 16 \text{ kmj}^{-1} / \text{kmh}^{-1}$	K1  K1  N1	
	(d) Laju kereta bagi 20 minit pertama / <i>The speed of car for the first 20 minutes:</i> $= \frac{20}{\left(\frac{10}{60}\right)}$ $= 120 \text{ kmj}^{-1} / \text{kmh}^{-1}$ Tidak / No Laju maksimum bagi laluan lebuh raya ialah $110 \text{ kmj}^{-1}$ <i>The speed limit for highway route is <math>110 \text{ kmh}^{-1}</math></i>	  P1  K1  N1	
13	(a) $8x + 4y \geq 320$ $x + y \leq 80$ $x \leq 2y$	P1 P1 P1	
	(b) Rujuk graf <i>Refer graph</i>		
	Paksi dilukis pada arah yang betul, skala seragam bagi $0 \leq x \leq 80$ dan $0 \leq y \leq 80$	P1	
	Tiga garis berikut dilukis dengan betul $8x + 4y \geq 320$ $x + y \leq 80$ $x \leq 2y$	K1 K1 K1	
	Lorekan betul	K1	
(c) Bilangan minimum = 20 mangkuk/bowls Bilangan maksimum = 40 mangkuk/bowls	N1 N1		
			9
			10

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



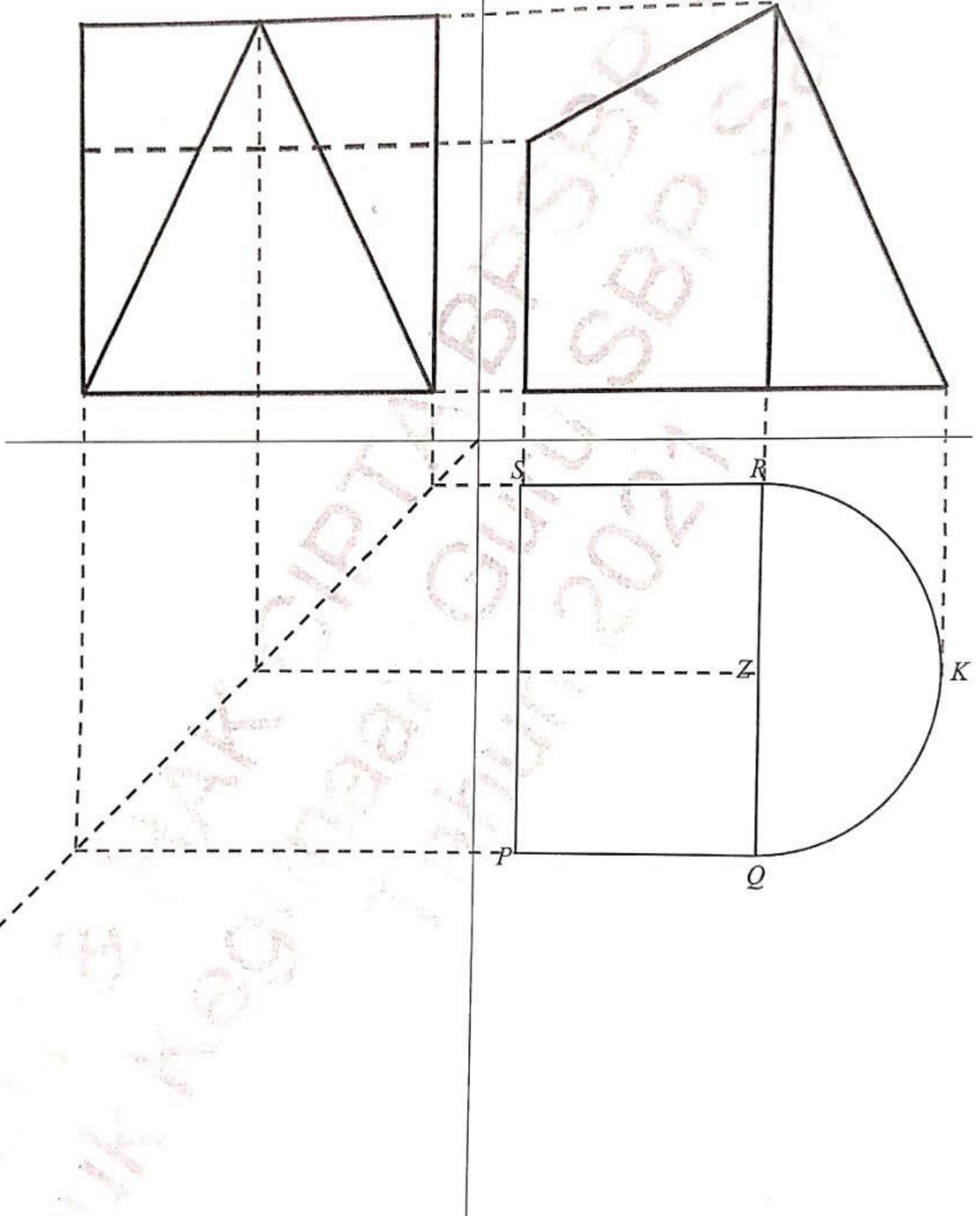
No		Pemarkahan	Markah	Jumlah
14	(a)	$\frac{\text{RM}260\,000}{\text{RM}1\,000} \times 1.438$ $\text{RM } 373.88$	K1 N1	
	(b)	(i)		
		Premium Setengah Tahunan = $\text{RM } 373.88 \times 0.535$ = $\text{RM } 200.03$  Premium Setahun = $\text{RM } 200.26 \times 2$ = $\text{RM } 400.52$ 200.052	K1 N1	
		(ii)		
		Premium Suku Tahunan = $\text{RM } 3738.80 \times 0.283$ = $\text{RM } 1058.08$  Premium Setahun = $\text{RM } 1\,058.08 \times 4$ = $\text{RM } 4\,232.32$	K1 N1	
		(iii)		
		Premium Bulanan = $\text{RM } 3\,738.80 \times 0.1081$ = $\text{RM } 404.16$  Premium Setahun = $\text{RM } 404.16 \times 12$ = $\text{RM } 4\,849.97$	K1 N1	

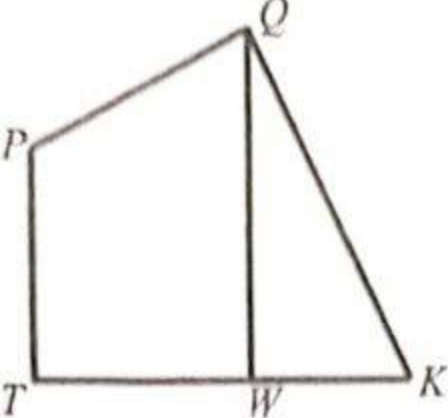
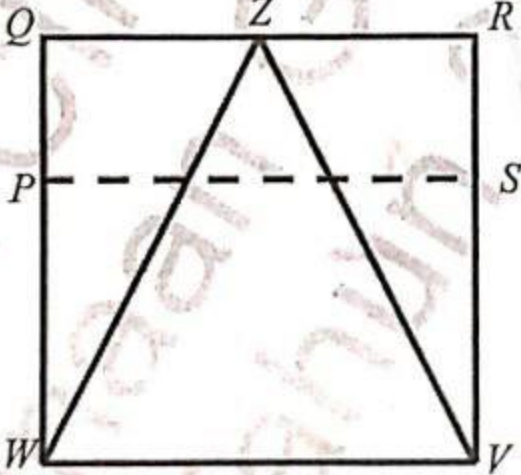


15

(b)  $Y$

(a)  $X$



No	Pemarkahan		Markah	Jumlah
15	(a)	<p data-bbox="239 155 291 196">(a)</p>  <p data-bbox="244 606 1107 708">Bentuk yang tepat dengan trapezium dan segi tiga. <i>Correct shape of a trapezium and a triangle.</i></p> <p data-bbox="244 749 800 851">Semua garis adalah garis penuh. <i>All lines are solid.</i></p> <p data-bbox="244 891 708 937"><math>QK &gt; QW &gt; PQ &gt; PT &gt; WK</math></p> <p data-bbox="244 983 1269 1182">Ukuran tepat kepada <math>\pm 0.2</math> cm (sehalu) semua sudut pada penjuru <math>= 90^\circ \pm 1^\circ</math> <i>Measurements correct to <math>\pm 0.2</math> cm (one way) and all angles at vertices <math>= 90^\circ \pm 1^\circ</math>.</i></p>	<p data-bbox="1367 601 1425 642">K1</p> <p data-bbox="1367 741 1425 782">K1</p> <p data-bbox="1367 886 1425 927">K1</p> <p data-bbox="1367 1003 1425 1044">N1</p>	
	(b)	<p data-bbox="256 1238 309 1279">(b)</p>  <p data-bbox="244 1786 1269 1946">Bentuk yang tepat dengan segiempat sama <math>QRVW</math> kecuali garis putus-putus <math>PS</math>. <i>Correct shape with a square <math>QRVW</math> without dotted line <math>PS</math>.</i></p> <p data-bbox="244 1989 614 2091">Garis putus-putus <math>PS</math> <i>Dotted line <math>PS</math>.</i></p> <p data-bbox="244 2135 1065 2181"><math>WZ = ZV &gt; WV &gt; PW = SV &gt; QZ = ZR &gt; QP = RS</math></p> <p data-bbox="244 2257 1269 2456">Ukuran tepat kepada <math>\pm 0.2</math> cm (sehalu) semua sudut pada penjuru <math>= 90^\circ \pm 1^\circ</math> <i>Measurements correct to <math>\pm 0.2</math> cm (one way) and all angles at vertices <math>= 90^\circ \pm 1^\circ</math>.</i></p>	<p data-bbox="1367 1811 1425 1852">K1</p> <p data-bbox="1367 1982 1425 2023">K1</p> <p data-bbox="1367 2130 1425 2170">K1</p>	N2

No	Pemarkahan		Markah	Jumlah	
16	(a)	$\frac{25.5(3) + 75.5(7) + 125.5(3) + 175.5(11) + 225.5(8)}{42}$ RM142.2	K2  N1		
	(b)	(i)	$\frac{1}{10} \times \frac{3}{4}$ $\frac{3}{40}$	K1  N1	
		(ii)	$\frac{1}{10} + \frac{3}{4} - \frac{3}{40} \text{ or } 1 - \left(\frac{9}{10} \times \frac{1}{4}\right) \text{ or}$ $\left(\frac{1}{10} \times \frac{3}{4}\right) + \left(\frac{1}{10} \times \frac{1}{4}\right) + \left(\frac{9}{10} \times \frac{3}{4}\right)$ $\frac{31}{40}$	K2  N1	
		(iii)	$\frac{3}{4} \times \frac{9}{10} \text{ or } \frac{3}{4} - \frac{3}{40} \text{ or equivalent}$ $\frac{27}{40}$	K1  N1	
	(c)	(i)	Translation $(\begin{smallmatrix} 12 \\ 4 \end{smallmatrix})$	P2	
		(ii)	Rotation $180^\circ$ at <del>(15, 7)</del> at $(15, 7.5)$	P3	15

OR enlargement faktor skalar = -1

at 15, 7.5

No	Pemarkahan	Markah	Jumlah												
17	(a) (i) Rujuk Graf														
	Paksi dilukis pada arah yang betul, skala seragam bagi $39.5 \leq x \leq 99.5$ dan $0 \leq y \leq 40$	K1													
	7 titik*nya ditanda dengan betul	K2													
	Lengkungan licin melalui 7 titik yang betul.	N1													
	(iif) 75.5	N1													
(b)	$65.5 \times 4 = 270$ $\frac{270 + 3x}{4} = 70.5 \quad \text{atau setara}$ $x = 4$ Markah tambahan Kimia = 8	K1 K1 K1 N1													
(c) (i)	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Calon peserta <i>Prospective participants</i></th> <th><math>\Sigma x</math></th> <th><math>\Sigma x^2</math></th> <th><math>\sigma</math></th> </tr> </thead> <tbody> <tr> <td>Zulkhairy</td> <td>434</td> <td>37854</td> <td>6.05</td> </tr> <tr> <td>Melisa</td> <td>443</td> <td>39417</td> <td>5.78</td> </tr> </tbody> </table> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p><u>Zulkhairy</u></p> <math display="block">\text{Min} = \frac{434}{5}</math> <math display="block">= 86.8</math> <math display="block">\sigma = \sqrt{\frac{37854}{5} - 86.8^2}</math> <math display="block">= \sqrt{36.56}</math> <math display="block">= 6.05</math> </div> <div style="text-align: center;"> <p><u>Melisa</u></p> <math display="block">\text{Min} = \frac{443}{5}</math> <math display="block">= 88.6</math> <math display="block">\sigma = \sqrt{\frac{39417}{5} - 88.6^2}</math> <math display="block">= \sqrt{33.44}</math> <math display="block">= 5.78</math> </div> </div>	Calon peserta <i>Prospective participants</i>	$\Sigma x$	$\Sigma x^2$	$\sigma$	Zulkhairy	434	37854	6.05	Melisa	443	39417	5.78	K1, K1 N1, N1	
Calon peserta <i>Prospective participants</i>	$\Sigma x$	$\Sigma x^2$	$\sigma$												
Zulkhairy	434	37854	6.05												
Melisa	443	39417	5.78												
(ii)	Melisa <i>Zulkhairy</i> Sisihan piawai Melisa yang lebih kecil menunjukkan pencapaiannya lebih konsisten.	P1 P1	15												

Graf Soalan 17(a)

