MAJLIS PENGETUA SEKOLAH MALAYSIA (MPSM)
CAWANGAN KELANTAN

MODUL KOLEKSI ITEM
PERCUBAAN SPM
2025

MATEMATIK
KERTAS 1/2

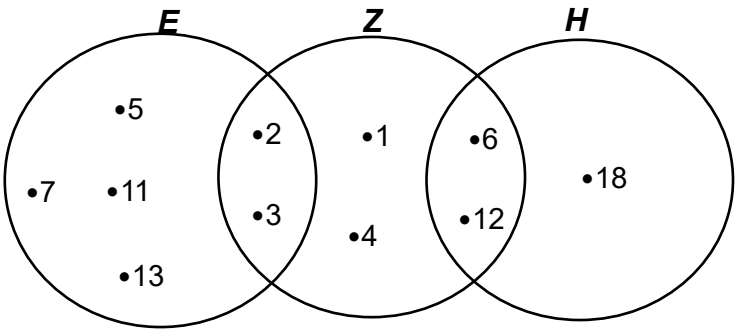
UNTUK KEGUNAAN PEMERIKSA SAHAJA

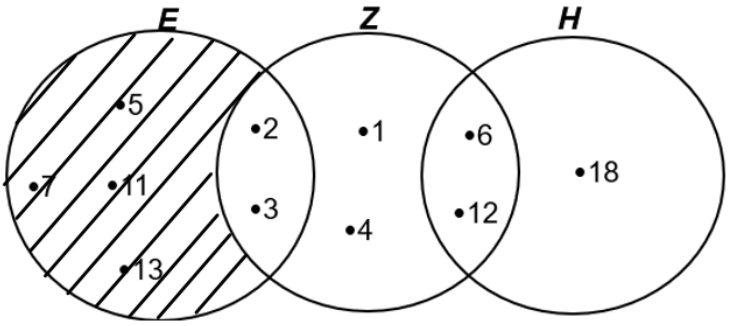
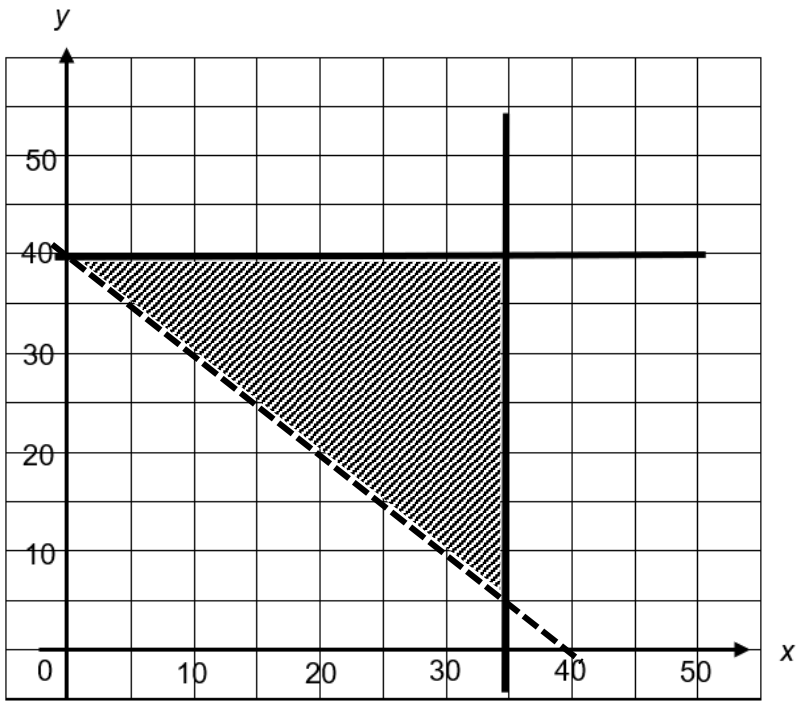
SKEMA PEMARKAHAN

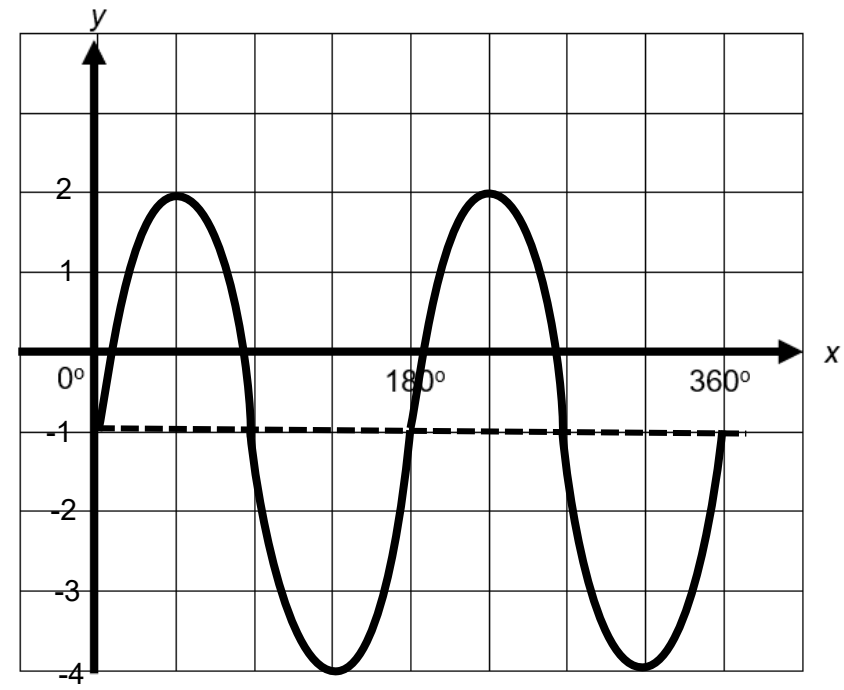
KERTAS 1

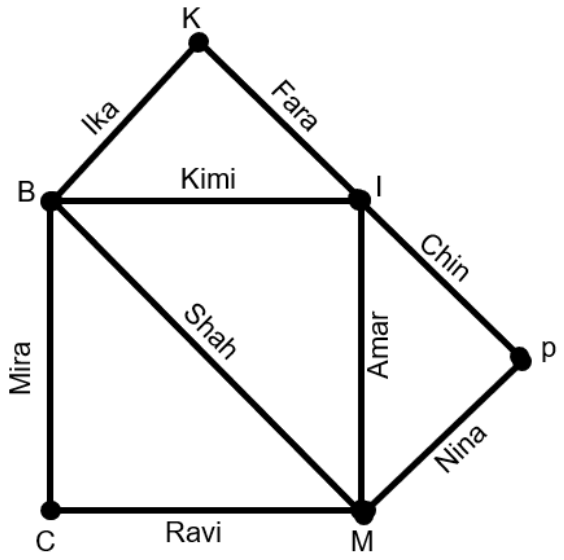
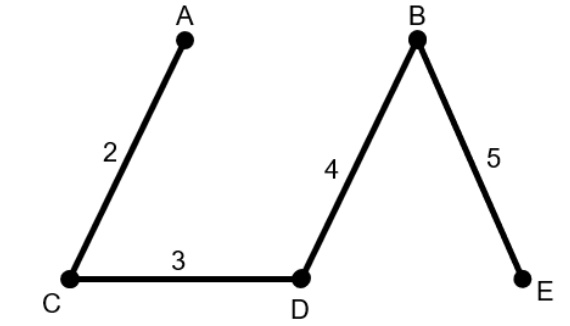
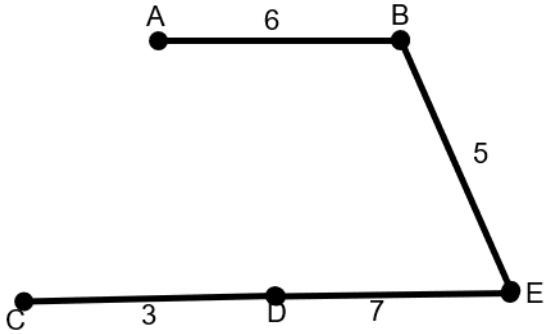
1	B	11	C	21	D	31	C
2	B	12	D	22	C	32	D
3	A	13	A	23	A	33	B
4	B	14	D	24	A	34	A
5	C	15	C	25	D	35	A
6	D	16	A	26	B	36	D
7	B	17	D	27	D	37	C
8	C	18	C	28	C	38	A
9	B	19	B	29	D	39	B
10	C	20	D	30	C	40	A

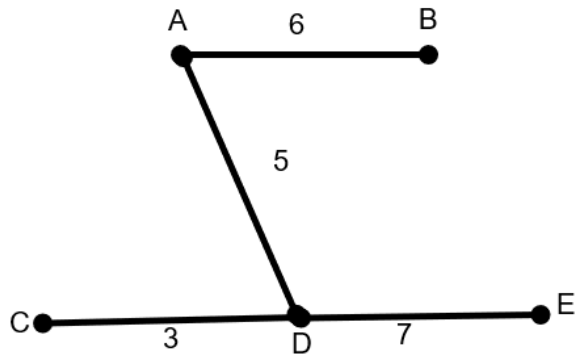
KERTAS 2

SOALAN		PERATURAN	MARKAH	
1	(a)	$5q^3$	1	3
	(b)	$2(2a+b)+4(2a+b)$ atau setara	1	
		$12a+6b$	1	
2	(a)	Songsangan : Jika $x+3\leq 9$, maka $x\leq 5$.	1	4
		Kontrapositif : Jika $x\leq 5$, maka $x+3\leq 9$	1	
	(b) (i)	$2n+1, n=1,2,3,\ldots$	1	
		61	1	
3		$\frac{4}{3}\times\frac{22}{7}\times 10.5^3=\frac{1}{2}(16+26)\times 12\times p$	2	3
		19.25	1	
4	(a)		2	4

	(b)(i)		1	
	(b)(ii)	{1, 4, 5, 7, 11, 13, 18}	1	
5	(a)	$x + y > 40$	1	4
		$x \leq 35$	1	
	(b)	 Garis $x + y = 40$ (1m) Lorek (1m)	2	
6	(a)	$\frac{64+65+70+x+90}{5}$ = 69.8 40	1 1	4
	(b)	$\sqrt{\frac{73^2+65^2+73^2+58^2+80^2}{5} - 69.8^2}$	1	
		7.57 Ya kerana markah lebih konsisten	1	

7	(a)	$\frac{10-15}{8-0}$ $\frac{5}{8}$	1 1	4
	(b)	$\frac{1}{2}\times(10+15)\times 8+(12\times 10)+\frac{1}{2}\times 10\times(t-20)=245$	1	
		25	1	
8	(a)	sewa rumah	1	4
	(b)	$7\,800+1\,250+700-780-600-900-700-350-200-100$ $-400-350$ $\frac{10}{100}\times 7\,800$ atau 780 dilihat beri (1m)	2	
		$5\,370$	1	
		Type equation here.		
9	(a)	$4\frac{1}{\sqrt{2}}+3\sqrt{3}+2\left(\frac{1}{\sqrt{2}}\right)$ $3\sqrt{2}+3\sqrt{3}$	1 1	4
	(b)	 Graf dilukis betul (1m) Paksi- y ditanda pada garis keseimbangan, titik maksimum dan minimum betul (1m)	2	
10	(a)	$\frac{75}{100}\times\left[339.10+\left(\frac{89\,000-1\,000}{1\,000}\right)\times 26\right]$	2	
		1 970. 33	1	

	(b)	$1\,970 - \frac{30}{100}(1\,9\,70.33)$ $1\,379.23$	1 1	4
11	(a)(i)	$E = \{(A,B),(A,E),(B,C),(B,E),(C,E),(C,D),(C,D),(E,D),(E,E)\}$	1	9
	(ii)	18	1	
	(b)		3	
	(c)(i)	 Pokok minimum 	1 1	

<table>
<tr><td></td><td></td><td>Atau
 

Pokok maksimum</td><td></td><td></td></tr>
<tr><td></td><td>c (ii)</td><td>$(2+3+4+5)\times 1\,000\times 12.70$
177 800</td><td>1
1</td><td></td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>12</td><td>(a)</td><td>EFG dan EIH atau EAB atau EDC atau EJA atau EKD
* Mana – mana dua pasangan segitiga kongruen yang betul.</td><td>2</td><td></td></tr>
<tr><td></td><td>(b) (i)</td><td>Q: Pembesaran faktor skala $\frac{1}{2}$ pada pusat A.
P: Putaran 180° pada pusat A.

Atau
Q: Putaran 180° pada pusat A.
P : Pembesaran faktor skala $\frac{1}{2}$ pada pusat A</td><td>5</td><td rowspan="2">9</td></tr>
<tr><td></td><td>(ii)</td><td>$4.125 = 0.5^2 \times (4.125 + x)$
12.375</td><td>1
1</td></tr>
<tr><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td>13</td><td>(a)(i)</td><td>Saiz selang kelas : 5
Julat : 30</td><td>1
1</td><td rowspan="2">9</td></tr>
<tr><td></td><td>(ii)</td><td><table>
<tr><th>Sempadan atas
Upper Boundary</th><th>Kekerapan Longgokan
Cumulative Frequency</th></tr>
<tr><td>10.5</td><td>5</td></tr>
<tr><td>15.5</td><td>13</td></tr>
<tr><td>20.5</td><td>26</td></tr>
<tr><td>25.5</td><td>45</td></tr>
<tr><td>30.5</td><td>65</td></tr>
<tr><td>35.5</td><td>77</td></tr>
<tr><td>40.5</td><td>80</td></tr>
</table></td><td>2</td></tr>
</table>

	(b)	(Rujuk Graf muka surat 8) Skala yang seragam $55 \leq x \leq 40.5$ dan $0 \leq y \leq 80$ (1m) Semua titik diplot betul (2m) Graf ogif dilukis dengan licin dan seragam (1m)	4	
	(c)	26.5	1	
14	(a)	$200 + 0.40(1\,789 - 1\,600)$	1	9
		275.60	1	
	(b)(i) (a)	$90\,000 + (90\,000 - 12\,000) - 500 - 500 - 25\,000$ 142 000	1 1	
	(b)	$9\,400 + \frac{25}{100}(100\,000 - 142\,000) - 2\,500$ 17 400	1 1	
	(ii)	$17\,400 - 12(650 + 500) = 3\,600$ Ya, kerana jumlah PCB kurang daripada jumlah cukai pendapatan sebanyak RM3 600.	1 1	
15	(a)	$x = 2$ $y = -3$ $9 - 5z - 2 = 2$ $z = 1$	1 1 1 1	9
	(b)	$50x + 60y = 10\,850$ atau $30x + 45y = 7\,275$ $\begin{pmatrix} 50 & 60 \\ 30 & 45 \end{pmatrix}\begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} 10\,850 \\ 7\,275 \end{pmatrix}$ $\frac{1}{50(45) - 60(30)}\begin{pmatrix} 45 & -60 \\ -30 & 50 \end{pmatrix}\begin{pmatrix} 10\,850 \\ 7\,275 \end{pmatrix}$ $x = 115$ $y = 85$	1 1 1 1 1	
16	(a)(i)	Jabatan Kastam Di Raja Malaysia	1	3
	(ii)	$\frac{127.20 - 120}{120} \times 100$ 6%	1 1	
	(b)	$x + y = 500$ atau $50x + 120y = 39\,000$ atau setara	1	4

		$70y + 14\,000$ atau $70x = 21\,000$ atau setara	1	
		$x = 300$	1	
		$y = 200$	1	
	(c) (i)	$(2x + 4)(x + 5) - \frac{1}{2} \times 8 \times (x + 2)$	1	5
		$2x^2 + 10x + 12$	1	
	(ii)	$\frac{1}{2} \times (x + 2) \times 8 = 48$	1	
		$x = 10$	1	
		312	1	
	(d)	$\frac{0.70 \times \left(\frac{500\,000}{1.25}\right)}{500\,000} \times 100\%$	2	
		56%. Tidak	1	
17	(a)	$(200 \times 0.218) + (100 \times 0.334) + (300 \times 0.516) + (90 \times 0.546) + \left(90 \times 0.546 \times \frac{6}{100}\right)$	2	3
		283.89	1	
	(b)	$x + y = 50$ atau $15x + 20y = 850$	1	4
		$5y = 100$ atau $5x = 150$	1	
		$x = 30$ $y = 20$	1 1	
	(c)(i)	$(2x + 10)(2x + 6) = 480$	1	5
		$x^2 + 8x - 105 = 0$	1	
	(ii)	$(x - 7)(x + 15) = 0$	1	
		$x = 7$	1	
		20	1	
	(d)	$\frac{500\,000 - 270\,000 - 333\,000 - 7\,500 - 4\,000 - 9\,000}{270\,000} \times 100\%$	2	3
		44.25% Tercapai	1	

Jawapan 13(b)