

MATEMATIK



1449/1/2



MAJLIS PENGETUA SEKOLAH MALAYSIA (MPSM) CAWANGAN KELANTAN

MODUL KOLEKSI ITEM PERCUBAAN SPM 2026

MATEMATIK KERTAS 1/2

UNTUK KEGUNAAN PEMERIKSA SAHAJA

SKEMA PEMARKAHAN

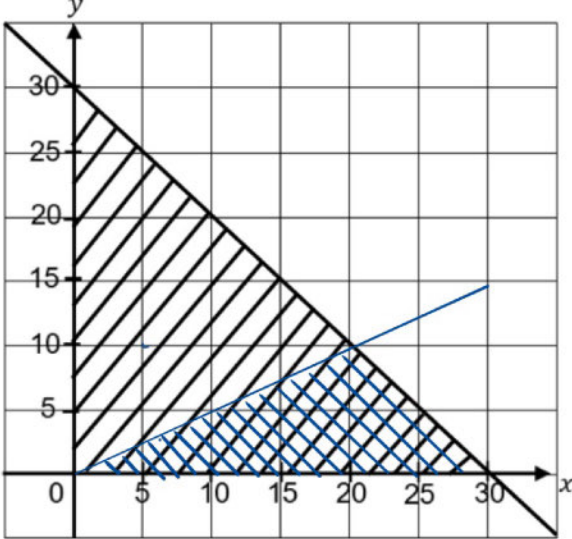
KERTAS 1

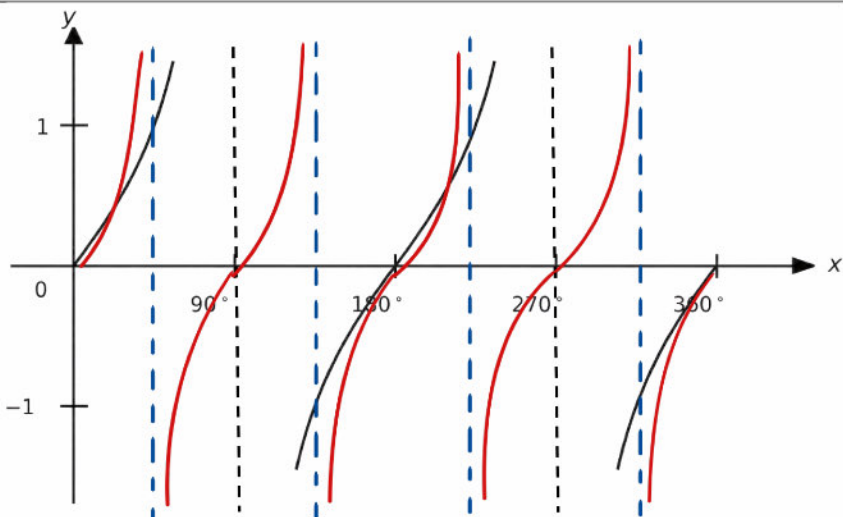
1	C	11	A	21	A	31	D
2	D	12	C	22	C	32	D
3	C	13	D	23	D	33	A
4	B	14	A	24	B	34	C
5	C	15	B	25	B	35	B
6	B	16	D	26	B	36	B
7	B	17	C	27	C	37	D
8	A	18	C	28	A	38	A
9	A	19	C	29	D	39	B
10	B	20	C	30	A	40	A

KERTAS 2

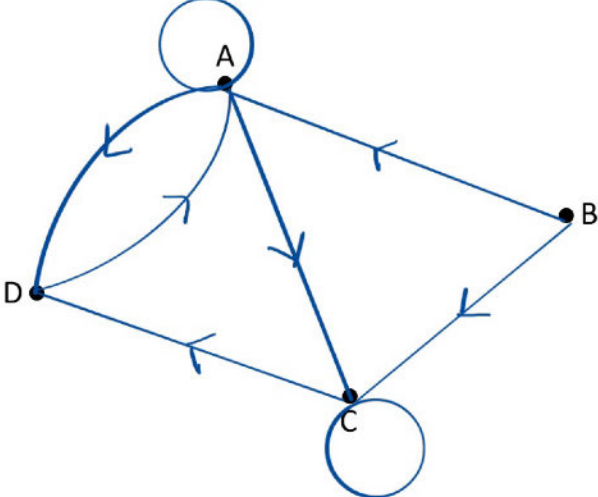
SOALAN	PERATURAN	MARKAH	
1	(a)(i) palsu / <i>false</i>	1	4
	(ii) Benar / <i>true</i>	1	
	(b) Songsangan : Jika $n \ll 12$, maka $n \ll 7$ <i>Inverse : If $n \ll 12$, then $n \ll 7$</i>	1	
	Kontrapositif : Jika $n \ll$, maka $n \ll 12$ <i>Contrapositive : If $n \ll$, then $n \ll 12$</i>	1	
2	Nota : Semua titik di plot dengan betul [2m] Lengkung yang licin dan bersambung tanpa sebarang garis lurus melalui semua 8 titik [1] <i>Note:</i> <i>All points are plotted correctly [2m]</i> <i>A smooth and continuous curve without any straight lines through all 7 points [1]</i>  SERTAI TELEGRAM @exercise_students	3	

				3
3	(a)	$\sqrt{10^2 - 8^2}$	1	4
		6	1	
	(b)	$\tan \angle RST = \frac{4}{3}$	1	
		53.13°	1	
4	(a)		1	4
	(b)	$x + 8$	1	
	(c)	$6x + x + 2 + x + 5 + 8 + 3x + 2 = 50$	1	

		5	1	
5	(a)	$x \geq 2y @ 2y \leq x @ y \leq \frac{1}{2}x$	1	4
	(b)	Jumlah murid perempuan dan murid lelaki selebih – lebihnya tiga puluh. <i>The number of female and male students is at most thirty.</i>	1	
	(c)	 Graf $y = \frac{1}{2}x$ Rantau berlorek	1 1	
6	(a)	$\frac{x-3+x+2x+9+x+8+2x}{5} = 70$	1	4
		$x = 48$	1	
	(b)	$\frac{45^2+48^2+105^2+56^2+96^2}{5} - 70^2$	1	
		641.2	1	
7	(a)	$\frac{5}{\frac{11}{3} \times \frac{1}{10}}$	1	4
		$\frac{3}{10}$	1	
	(b)	$\frac{2}{\frac{11}{3} \times \frac{1}{10}}$	1	
		$\frac{1}{55}$	1	
8	(a)	135	1	

	(b)	$305.50 + \left(\frac{95\,000 - 1\,000}{1\,000} \right) \times 26$	1	5
		2 749.50	1	
	(c)	$\frac{55}{100} \times 2\,749.50$	1	
		1512.23	1	
9	(a)	$\frac{10}{100} \times 5\,000 \times 12$	1	4
		6 000	1	
	(b)	$5\,000 + 850 - 500 - 900 - 600 - 400 - 300 - 300$	1	
		2 850	1	
10	(a)	$y = \sin x$	1	4
	(b)(i)		2	
	(ii)	90	1	
11	(a)(i)	(Q,S), (R,R)	1	
	(ii)	6	1	
	(iii)	12	1	



	(b)		3	9																
	(c)	Q – P – R – S – T	1	9																
		500 + 950 + 550 + 400 @ 0.5 + 0.95 + 0.55 + 0.4	1																	
		2.4	1																	
12	(a)	<table><tr><th>Sempadan atas (cm) <i>Upper boundary (cm)</i></th><th>Kekerapan Longgokan <i>Cumulative Frequency</i></th></tr><tr><td>139.5</td><td>0</td></tr><tr><td>144.5</td><td>2</td></tr><tr><td>149.5</td><td>8</td></tr><tr><td>154.5</td><td>22</td></tr><tr><td>159.5</td><td>34</td></tr><tr><td>164.5</td><td>44</td></tr><tr><td>169.5</td><td>50</td></tr></table>	Sempadan atas (cm) <i>Upper boundary (cm)</i>	Kekerapan Longgokan <i>Cumulative Frequency</i>	139.5	0	144.5	2	149.5	8	154.5	22	159.5	34	164.5	44	169.5	50	2	9
Sempadan atas (cm) <i>Upper boundary (cm)</i>	Kekerapan Longgokan <i>Cumulative Frequency</i>																			
139.5	0																			
144.5	2																			
149.5	8																			
154.5	22																			
159.5	34																			
164.5	44																			
169.5	50																			
	(b)	Kedua – dua paksi dalam arah yang betul dengan skala seragam $139.5 \ll x \ll 169.5$ dan $0 \ll x \ll 50$. 6 palang dilukis dengan betul menggunakan nilai sempadan / titik tengah yang betul. Histogram longgokan yang betul menggunakan skala yang betul.	1 2 1																	

	(c) (i)	Ogif dilukis dengan betul pada histogram longgokan.	1	
	(ii)	$\frac{10}{100} \times 50 @ 5$	1	
		147.5	1	
13	(a)		1	
	(b)	(2, 1) Nota: (1,6) dilihat beri 1m	2	
	(c)(i)	Pembesaran Faktor skala -3 Pusat (-2, 2)	3	9

	(ii)(a)	1:9	1	
	(b)	$\frac{75}{10}$	1	
		7.5	1	
14	(a)	50 400 – 15 300 – 120	1	9
		34 980	1	
	(b)(i)	$150 + \frac{3}{100} (34\,980 - 20\,000) - 400 - 150$	1	
		49.40	1	
	(ii)	$(22.50 \times 12) - 49.40$	1	
		220.60 dan Tidak	1	
	(iii)(a)	1 500	1	
	(b)	$\frac{11}{100} (69\,850 - 50\,000)$	1	
		2 183.50	1	
15	(a)	3×4	1	9
	(b)	$\begin{pmatrix} 1 & 0 \\ 0 & 1 \end{pmatrix}$	1	
		$x - y = 1.50$ atau $80x + 40y = 600$	1	
		$\begin{bmatrix} 1 & -1 \\ 80 & 40 \end{bmatrix} \begin{bmatrix} x \\ y \end{bmatrix} = \begin{bmatrix} 1.50 \\ 600 \end{bmatrix}$	1	
		$\frac{1}{1(40) - (80)(-1)} \begin{bmatrix} 40 & 1 \\ -80 & 1 \end{bmatrix} \begin{bmatrix} 1.50 \\ 600 \end{bmatrix}$	1	
		$x = 5.50$	1	
		$y = 4$	1	
	(c)	$(5 \ y) \begin{pmatrix} 5.50 \\ 4 \end{pmatrix} = (59.50)$	1	
		$y = 8$	1	
16	(a)	L = 15	1	15
		P = 20	1	
	(b)(i)	10	1	
	(ii)	8.55 am	1	
	(iii)	$\frac{(\frac{200}{1000})}{(\frac{25}{60})} - \frac{(\frac{200}{1000})}{(\frac{40}{60})}$	1	
		0.05	1	
	(c) (i)	$\frac{2(3) + 6(8) + 14(13) + 6(18) + 2(23)}{30}$	1	
		13	1	

	(ii)	$\sqrt{\frac{2(3^2) + 6(8^2) + 14(13^2) + 6(18^1) + 2(23^2)}{30}} - 13^2$	1	
		4.830	1	
		Qilla, Konsisten	1	
	(d)(i)	$z = 100x + 20y + 200$	1	
	(ii)	$y = 2(x + 2)$	1	
		$100x + 200 + 20(2x + 4) = 560$	1	
		4	1	
17	(a)(i)	3:1	1	15
	(ii)	$\frac{90}{360} \times 100$	1	
		25%	1	
	(b)(i)	30	1	
	(ii)	$\frac{60}{\left(\frac{40}{60}\right)}$	1	
		90	1	
	(c)(i)	$\begin{array}{r} 64 + 68 + 69 + 72 + 75 + 75 + 77 + \\ 78 + 81 + 83 \\ + 85 + 85 + 88 + 90 + 92 \\ \hline 15 \end{array}$	1	
		78.8	1	
	(ii)	$\sqrt{\frac{64^2 + 68^2 + 69^2 + 72^2 + 2(75)^2 + 77^2 + 78^2 + 81^2 + 83^2 + 2(85)^2 + 88^2 + 90^2 + 92^2}{15}} - 78.8^2$	1	
		8.14	1	
	(iii)	Tiada perubahan	1	
	(d)	$30x + 20y = 190$ atau $40(x - 1) + 10y = 180$	1	
		$50x = 250$ atau $50y = 100$ setara	1	
		$x = 5$	1	
		$y = 2$	1	

