

PERATURAN PEMARKAHAN
PERCUBAAN SPM TINGKATAN 5 TAHUN 2026
KERTAS 1

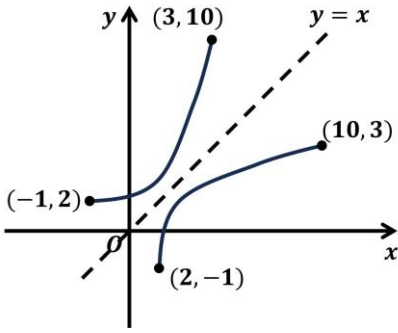
No	Peraturan Pemarkahan	Markah	Markah Penuh
Bahagian A			
1	$3.142 - \frac{3.142}{5} - \frac{3.142}{2} = 0.9426 \text{ atau } 5(0.9426)$ 4.713	1 1	2
2	$\log_{10} y = -\log_{10} x + 2$ $\log_a x + \log_a y = \log_a(xy)$ $\log_{10}(xy) = 2$ *Tunjuk $xy = 10^2$ dan selesaikan $y = \frac{100}{x}$	1 1 1 1	4
3	(a) $S_{12} = \frac{12}{2} [2(1200) + 11(5)]$ 14730	1 1	8
	(b) $\frac{36}{2} [2(1200) + (36 - 1)(5)] @$ $\frac{3}{2} [2(15000) + (3 - 1)(y)]$ $3y = 46350 - 45000$ $y = 450$	1 1 1	
	(c) $\frac{60}{2} [2(1200) + (60 - 1)(5)] @$ $\frac{5}{2} [2(15000) + (5 - 1)(450)]$ $80850 \text{ \& } 79500$ $\text{Skim A \& } 80850 > 79500$	1 1 1	
4	(a) $3(3x - 2)^2(3)$ $* [3(3(1) - 2)^2(3)] \times m_2 = -1$ $y - (-2) = * - \frac{1}{9}(x - 1)$ $9y = -x - 17 @ \text{ setara}$	1 1 1 1	4

No		Peraturan Pemarkahan	Markah	Markah Penuh																
5	(a)	<table><tr><td></td><td>$x \leq -1$</td><td>$-1 \leq x \leq \frac{5}{2}$</td><td>$x \geq \frac{5}{2}$</td></tr><tr><td>$(x + 1)$</td><td>–</td><td>+</td><td>+</td></tr><tr><td>$(2x - 5)$</td><td>–</td><td>–</td><td>+</td></tr><tr><td>$(x + 1)(2x - 5)$</td><td>+</td><td>–</td><td>+</td></tr></table> $-1 \leq x \leq \frac{5}{2}$		$x \leq -1$	$-1 \leq x \leq \frac{5}{2}$	$x \geq \frac{5}{2}$	$(x + 1)$	–	+	+	$(2x - 5)$	–	–	+	$(x + 1)(2x - 5)$	+	–	+	1 1	7
		$x \leq -1$	$-1 \leq x \leq \frac{5}{2}$	$x \geq \frac{5}{2}$																
	$(x + 1)$	–	+	+																
	$(2x - 5)$	–	–	+																
	$(x + 1)(2x - 5)$	+	–	+																
(b)	$2x^2 + (-3 + m)x - 3 + n = 0$ $\alpha + \beta = \frac{3-m}{2}$ dan $\alpha\beta = \frac{-3+n}{2}$	1 1																		
(c)	$\frac{1}{\alpha} + \frac{1}{\beta} = k$ dan $\left(\frac{1}{\alpha}\right)\left(\frac{1}{\beta}\right) = 2k - 2$ $\frac{3-m}{-3+n} = \frac{1}{-3+n} + 1$ $m = 5 - n$	1 1 1																		
6	(a)	$14.4 = 8 \times \theta$ 1.8	1 1	6																
	(b)	$8 \times \tan(0.9 \times \frac{180}{\pi})$ $\frac{1}{2} \times 8 \times 10.079$ atau $\frac{1}{2} \times 8^2 \times 1.8$ $2(\frac{1}{2} \times 8 \times 10.079) - \frac{1}{2} \times 8^2 \times 1.8$ 23.03	1 1 1 1																	
	(a)	(i) $\overrightarrow{OP} = \begin{pmatrix} 4 \\ 4 \end{pmatrix}$ (ii) $\overrightarrow{QP} = \overrightarrow{QO} + \overrightarrow{OP}$ & $-(6\mathbf{i} - 4\mathbf{j}) + (4\mathbf{i} + 4\mathbf{j})$ $-2\mathbf{i} + 8\mathbf{j}$	1 1 1																	
7	(b)	$\overrightarrow{KM} = \overrightarrow{KL} + \overrightarrow{LM}$ & $4\mathbf{i} - 7\mathbf{j}$ $\widehat{KM} = \frac{4\mathbf{i} - 7\mathbf{j}}{\sqrt{(4)^2 + (-7)^2}}$ $\frac{4}{\sqrt{65}}\mathbf{i} - \frac{7}{\sqrt{65}}\mathbf{j}$	1 1 1	7																

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8	(a)	$\left(\frac{3(-2) + 2(8)}{3 + 2}, \frac{3(5) + 2(-5)}{3 + 2} \right)$ (2,1) dan tidak	1 1	6
	(b)	$m_1 = \frac{1 - (-1)}{2 - (-4)} \&$ <u>Guna *$m_1 \times m_2 = -1$</u> $m_2 = -3$ $y - 1 = \frac{1}{3}(0 - 2) @ 1 = \frac{1}{3}(2) + c \& \textit{selesaikan untuk c}$ $y = \frac{1}{3} @ c = \frac{1}{3}$ $y = -3x + \frac{1}{3}$	1 1 1 1	
9	(a)	-15	1	5
	(b)	$\int_1^2 h(x)dx + \int_1^2 kx dx = 11$ $5 + \left[\frac{kx^2}{2} \right]_1^2 = 11$ $5 + \left[\frac{k(2)^2}{2} - \frac{k(1)^2}{2} \right] = 11$	1 1 1 1	

No	Peraturan Pemarkahan	Markah	Markah Penuh
10	(a) $\frac{8(1.5^n - 1)}{1.5 - 1}$ $16(1.5^n - 1)$	1 1	5
	(b) <u>Ganti n = 3 atau n= 7 ke dalam * S_n</u> $16(1.5^7 - 1) @ \frac{8(1.5^7 - 1)}{1.5 - 1} @ 16(1.5^3 - 1) @ \frac{8(1.5^3 - 1)}{1.5 - 1}$ <u>Cari $S_7 - S_3$</u> $16(1.5^7 - 1) - 16(1.5^3 - 1) @$ $\frac{8(1.5^7 - 1)}{1.5 - 1} - \frac{8(1.5^3 - 1)}{1.5 - 1}$ 219.38	1 1 1	
		1	
11	(a) Guna ${}^nP_r = \frac{n!}{(n-r)!}$ $\frac{(n+2)(n+2-1)(n+2-2)(n+2-3)!}{(n+2-3)!}$ $\frac{(n+2)(n+2-1)(n+2-2)(n+2-3)!}{(n+2-3)!} = 30n$ Mencari nilai n 4	1 1 1 1	7
	(b) (i) 24 (ii) Tunjuk ${}^3C_2 \times {}^4C_1$ atau ${}^3C_3 \times {}^4C_0$ 13 cara	1 1 1	
12	(a) 0.2	1	4
	(b) (i) 0.8 (ii) $0.15 + 0.2$ 0.35	1 1 1	

Bahagian B			
No	Peraturan Pemarkahan	Markah	Markah Penuh
13	(a) $7^n(7^3) + 7^2(7^n) - 2(7^n)$ $7^n(7^3 + 7^2 - 2)$ $7^n(390)$ $\frac{390}{21} = \frac{130}{7} @ 18.57$ dan Tidak	1 1 1 1	8
	(b) $\frac{5 + \sqrt{2}}{\sqrt{32} - 2\sqrt{2}} \times \frac{\sqrt{32} + 2\sqrt{2}}{\sqrt{32} + 2\sqrt{2}}$ $\frac{5\sqrt{16 \times 2} + 10\sqrt{2} + \sqrt{64} + 2(2)}{32 - 8}$ $*\sqrt{16 \times 2}$ mesti ditunjukkan $\frac{1}{2} + \frac{5}{4}\sqrt{2}$ $a = \frac{1}{2}, b = \frac{5}{4}, c = 2$	1 1 1 1	
14	(a) Sudut rujukan = 45° $2\theta = 45^\circ, 225^\circ, 405^\circ, 585^\circ$ $\theta = 112.5$	1 1 1	8
	(b) $\sin x = \frac{\sqrt{p^2-1}}{p}$ $\frac{2\sqrt{p^2-1}}{p^2}$	1 1	
	(c) <u>Guna rumus sudut majmuk</u> $\sin 15^\circ = \sin(45^\circ - 30^\circ) @ \sin(60^\circ - 45^\circ)$ $\sin 45^\circ \cos 30^\circ - \cos 45^\circ \sin 30^\circ @$ $\left(\frac{1}{\sqrt{2}}\right)\left(\frac{\sqrt{3}}{2}\right) - \left(\frac{1}{\sqrt{2}}\right)\left(\frac{1}{2}\right)$ $\frac{\sqrt{3}-1}{2\sqrt{2}}$	1 1 1	

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15	(a) $f^{-1}(x) = x + 4$	1	8
	(b) $x = \frac{y+1}{6}$ $g(y) = \frac{3}{1-6\left(\frac{y+1}{6}\right)}$ $g(x) = -\frac{3}{x}$ $g^2(x) = x \quad \& \quad g^3(x) = -\frac{3}{x} \quad \& \quad g^4(x) = x$ $g^{2n-1}(x) = -\frac{3}{x}$	1 1 1 1 1	
	(c)  $-1 \leq y \leq 3$	1 1	