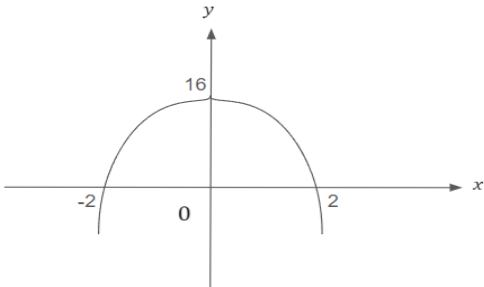
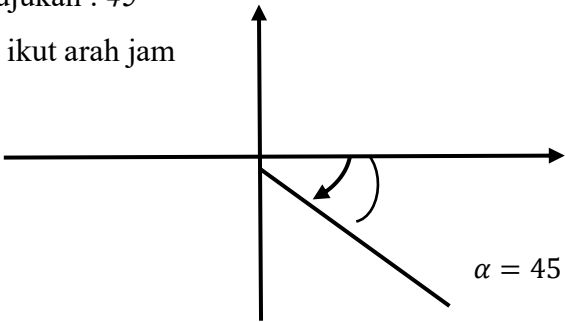
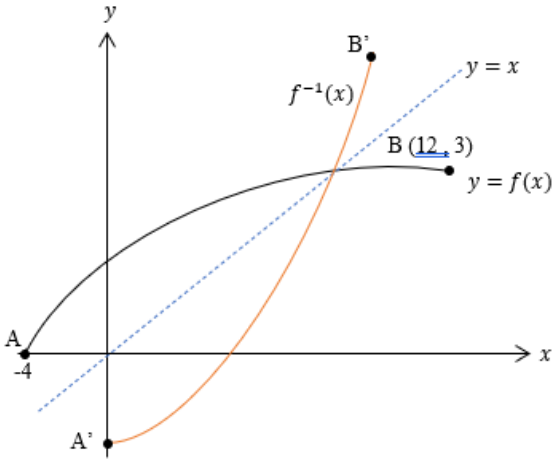
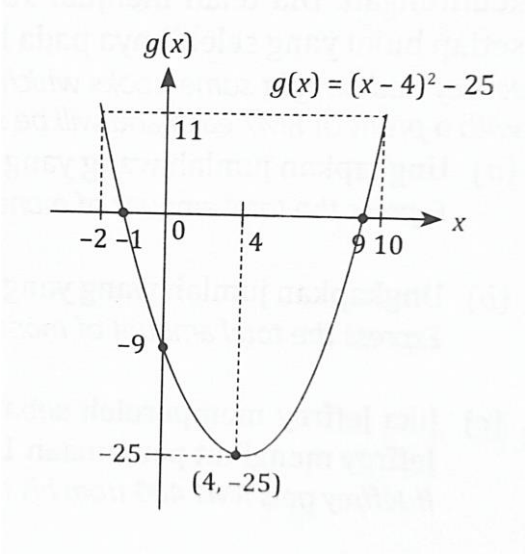
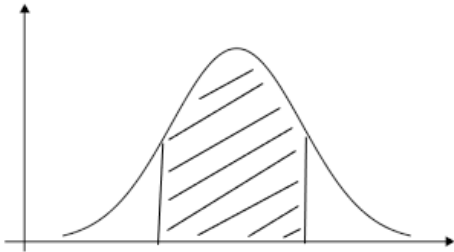


PANDUAN PENSKORAN
PEPERIKSAAN PERCUBAAN MATEMATIK TAMBAHAN SPM 2024
KERTAS 1 (SET A)

BIL	JAWAPAN	MARKAH	JUMLAH
1.	$a - ar = 8$ atau $\frac{a}{1-r} = 18$ Selesaikan (ganti) $a - ar = 8$ dan $\frac{a}{1-r} = 18$ $r = \frac{1}{3}$ sahaja	K1 N1 N1	3
2.	a) $\frac{-10(1)+x(3)}{1+3} = 0$ @ $\frac{4(1)+y(3)}{1+3} = -2$ C ($\frac{10}{3}, -4$) b) $m_1 = \frac{4-(-2)}{-10-0} = -\frac{3}{5}$ $m_2(-\frac{3}{5}) = -1$ $m_2 = \frac{5}{3}$ $4 = \frac{5}{3}(-10) + c$ $c = \frac{62}{3}$ $y = \frac{5}{3}x + \frac{62}{3}$ atau setara	K1 N1 K1 K1 N1	5
3.	a) $3x^2 + 2x = -x + 4$ $3x^2 + 3x - 4 = 0$ $x = 0.7583, x = -1.7583$	K1 N1	4
	b)  $0 = 16 - 4t^2$ $(4 - 2t)(4 + 2t) = 0$ $t = 2$ atau $t = -2$	K1 N1	

4.	Sudut rujukan : 45° Putaran ikut arah jam 	P1 P1	2
5.	a) $\overrightarrow{PO} = -7\underline{i} - 24\underline{j}$ $\widehat{(\overrightarrow{PO})} = \frac{-7\underline{i} - 24\underline{j}}{25}$ b) $\underline{v} = 4\sqrt{5}$ $\overrightarrow{OQ} = \begin{pmatrix} 7 \\ 24 \end{pmatrix} + 10 \begin{pmatrix} 8 \\ -4 \end{pmatrix}$ $\overrightarrow{OQ} = \begin{pmatrix} 87 \\ -16 \end{pmatrix}$	K1 N1	7
	c) $\overrightarrow{OQ} = \begin{pmatrix} 7 \\ 24 \end{pmatrix} + t \begin{pmatrix} 8 \\ -4 \end{pmatrix}$ $24 - 4t = 0$ $t = 6$	K1 N1	
6.	a)  Graf $f^{-1}(x)$ dilukis sebagai pantulan graf $f(x)$ pada $y = x$ Graf betul dan dilabel dgn A' dan B' atau setara.	P1 N1	4
	b) $A'(0, -4)$ $B'(3, 12)$	N1 N1	

7.	a) $-(-3h) = 4$ atau $\left[(-1) - 3\left(\frac{4}{3}\right)\right]^2 - 2k = 0$ $h = \frac{4}{3}$ $k = \frac{25}{2}$	K1 N1 N1	7
	b)  Bentuk – K1 Koordinat titik minimum $(4, -25)$ – K1 Pintasan-y – K1	K1 K1 K1	
	c) $g(-x) = (-x - 4)^2 - 25$	N1	
8.	a) $X = \{0, 1, 2, 3\}$	N1	4
	b) $n = 8 \quad p = 0.45 \quad q = 0.55$ $P(X = 3) = {}^8C_3 (0.45)^3 (0.55)^5$ $= \mathbf{0.2568}$	P1 K1 N1	

	$-\frac{5}{(3x-5)^2}$ $-\frac{5x}{3x-5} + c$	1 1	
11	a) Bilangan cara susun 7 orang = $(7-1)! = 720$ Bilangan cara susun Presiden dan Naib Presiden duduk sebelah menyebelah $= (6-1)! \times 2$ $= 240$ Bilangan cara mereka tidak duduk bersebelahan $= 720 - 240$ $= 480$	K1 K1 K1 N1	7
	b) $({}^4C_4 \times {}^3C_1) + ({}^4C_3 \times {}^3C_2)$ $3 + 12$ 15 cara	K1 K1 N1	
12	a) 	N1	6
	b) . i. $P(z > k) = 0.5 - 0.3557$ $= 0.1443$ k = 1.061	K1	
	ii. $Z = \frac{x - \mu}{\sigma}$ $1.061 = \frac{x - 69}{3}$ $x - 69 = 1.061 \times 3$ $= 3.183$ $x = 3.183 + 69$ $= \mathbf{72.183}$	N1 K1 K1 N1	

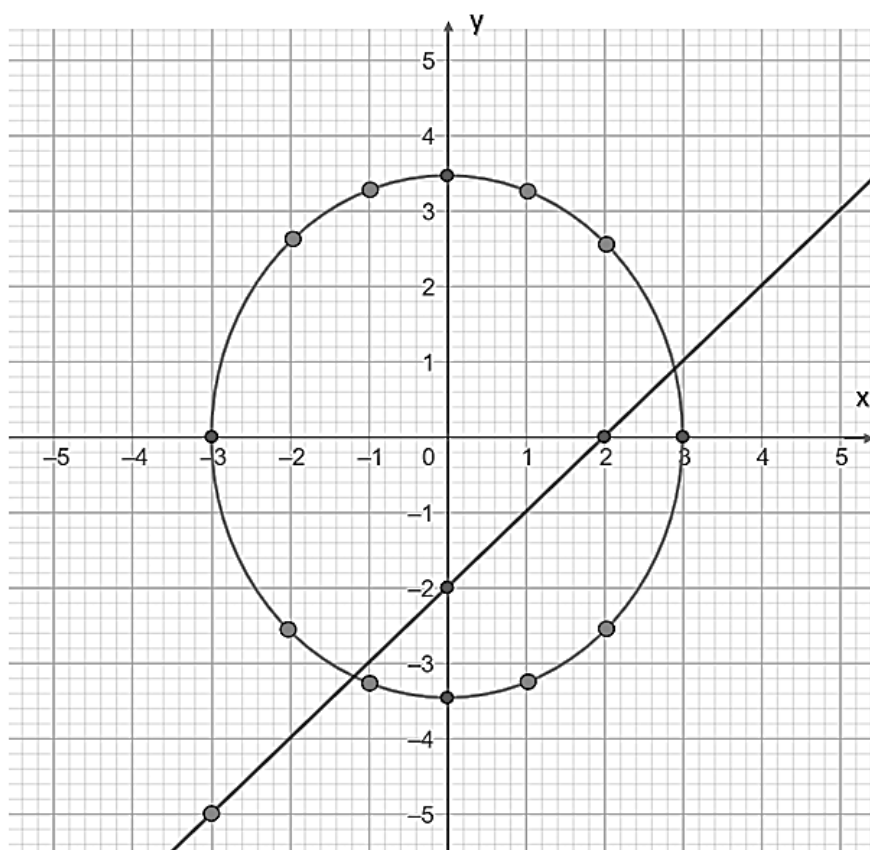
13

$$4x^2 + 3y^2 = 36$$

x	-3	-2	-1	0	1	2	3
y	0	± 2.6	± 3.3	± 3.5	± 3.3	± 2.6	0

$$x - y = 2$$

x	-2	0	2
y	-4	-2	0



• SEMUA titik bagi setiap graf diplot BETUL K1 K1

• Graf liner dilukis betul K1

• Graf tak linear dilukis betul K1

$(-1.2, -3.2)$ dan $(2.9, 0.9)$ N1 N1

N1

N1

14	a) $\frac{e^{3x+1}}{e^{2-x}} = \frac{9}{2}$ $e^{4x-1} = 4.5$ $\ln e^{4x-1} = \ln 4.5$ $(4x - 1)(1) = \ln 4.5$ $x = 0.6260$	K1 K1 N1	
	b) Andaikan hipotenus = h <i>Let hypotenuse = h</i> $h^2 = (4 + 2\sqrt{2})^2 + (4 - 2\sqrt{2})^2$ $= 16 + 16\sqrt{2} + 8 + 16 - 16\sqrt{2} + 8$ $= 48$ $h = \sqrt{48}$ $h = 4\sqrt{3}$ Perimeter $= 4 + 2\sqrt{2} + 4 - 2\sqrt{2} + 4\sqrt{3}$ $8 + 4\sqrt{3}$ Luas/ Area $= \frac{1}{2}(4 + 2\sqrt{2})(4 - 2\sqrt{2})$ $= 4$	K1 K1 N1 K1 N1	
15	a) 60° atau $\frac{\pi}{3}$ $\frac{1}{2} \times 3^2 \times \left(\frac{\pi}{3}\right)$ atau $\frac{1}{2} \times 6^2 \times \sin 60^\circ$ $\left(\frac{1}{2} \times 6^2 \times \sin 60^\circ\right) - 3\left(\frac{1}{2} \times 3^2 \times \left(\frac{\pi}{3}\right)\right)$ 1.449	1 1 1 1	8

	$b) \frac{2\pi}{3} \text{ atau } 2.095 \text{ atau } 120^\circ$	1	
	$3\left(\frac{2\pi}{3}\right)$	1	
	$3\left[3\left(\frac{2\pi}{3}\right)\right] + 3(6) \text{ atau } 3[3(2.095)] + 3(6)$	1	
	36.85	1	