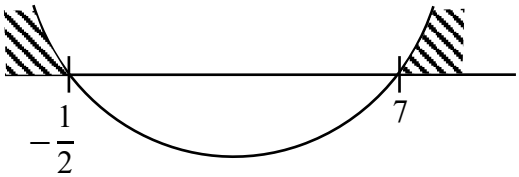
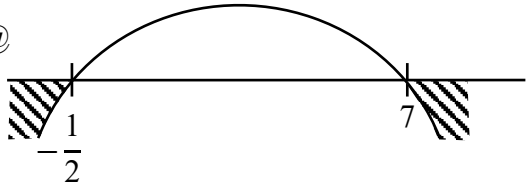
PANDUAN PEMARKAHAN

No.	Skema Pemarkahan	Sub markah	Jumlah markah
1	$4(1)+2(1)^2$ a = 6 // sebutan pertama = 6	1M 1M	 **2**
2	$5 \times m_2 = -1$ $y-\frac{13}{2} =^{*} \left(-\frac{1}{5}\right)\left(x-\frac{5}{2}\right)$ **@** Ganti $\left(\frac{5}{2}, \frac{13}{2}\right)$ ke dalam $y =^{*} \left(-\frac{1}{5}\right)x+c$ **&** selesaikan untuk *c* $y=-\frac{1}{5}x+7$	1M 1M 1M	 **3**
3(*a*)	$m=\frac{1}{4}$ Ganti (20, 2) @ $\left(6, -\frac{3}{2}\right)$ ke dalam $y\sqrt{x} =^{*} \left(\frac{1}{4}\right)x+c$ **&** selesaikan untuk *c* **ATAU** $\frac{y\sqrt{x}-\left(-\frac{3}{2}\right)}{x-6} =^{*} \left(\frac{1}{4}\right)$ **@** $\frac{y\sqrt{x}-2}{x-20} =^{*} \left(\frac{1}{4}\right)$ $y=\frac{1}{4}\sqrt{x}-\frac{3}{\sqrt{x}}$	1M 1M 1M	
(*b*)	-1.549 // $\frac{-2\sqrt{15}}{5}$	1M	**4**

No.	Skema Pemarkahan	Sub markah	Jumlah markah
4	$\sqrt{1-h^2}$ Dilihat	1M	
	$\frac{1}{\sqrt{1-h^2}}$	1M	**2**
5(*a*)	$\overrightarrow{BC} = \overrightarrow{BA} + \overrightarrow{AC}$ @ setara @ $\overrightarrow{AC} = \overrightarrow{AO} + \overrightarrow{OC}$ @ setara @ $\overrightarrow{BC} = \overrightarrow{BO} + \overrightarrow{OC}$ @ setara @ $\overrightarrow{BA} = \overrightarrow{BO} + \overrightarrow{OA}$ @ setara @ $\overrightarrow{BC} = \overrightarrow{BO} + \overrightarrow{OA} + \overrightarrow{AC}$ @ setara	1M	
	$\left(-2\underset{\sim}{i} + 7\underset{\sim}{j}\right) + \left(7\underset{\sim}{i} + 5\underset{\sim}{j}\right)$ @ $\left(-4\underset{\sim}{i} + 3\underset{\sim}{j}\right) + \left(9\underset{\sim}{i} + 9\underset{\sim}{j}\right)$ @ $\begin{pmatrix}-2\\7\end{pmatrix} + \begin{pmatrix}7\\5\end{pmatrix}$ @ $\begin{pmatrix}-4\\3\end{pmatrix} + \begin{pmatrix}9\\9\end{pmatrix}$	1M	
	$5\underset{\sim}{i} + 12\underset{\sim}{j}$ @ $\begin{pmatrix}5\\12\end{pmatrix}$	1M	
(*b*)	$\sqrt{{}^{*}5^2 + {}^{*}12^2}$	1M	
	$\frac{5}{13}\underset{\sim}{i} + \frac{12}{13}\underset{\sim}{j}$ // $\begin{pmatrix}\frac{5}{13}\\\frac{12}{13}\end{pmatrix}$	1M	**5**

No.	Skema Pemarkahan	Sub markah	Jumlah markah
6(*a*)	$3-4x=1$ **&** $3-4x=-1$	1M	
	$1,\ \frac{1}{2}$	1M	
(*b*)	$0.25(8t-10)$	1M	
	$fg(t)=2t-\frac{5}{2}$	1M	
(*c*)	$6\left(\frac{a+5}{3}\right)=3(1)-5$	1M	
	-6	1M	**6**
7(*a*)	$\alpha+\beta=-9$ @ $\alpha\beta=2k$	1M	
	$(2+\alpha-\beta)+(2-\alpha+\beta)$ **DAN** $(2+\alpha-\beta)(2-\alpha+\beta)$	1M	
	$2*(2k)-[*(-9)^2-2*(2k)]+4$	1M	
	$x^2-4x+8k-77=0$	1M	
(*b*)	$(2p+1)(p-7)$ **&** 	1M	
	$-(2p+1)(p-7)$ **&** @ 		
	$p\le-\frac{1}{2},\ p\ge7$	1M	

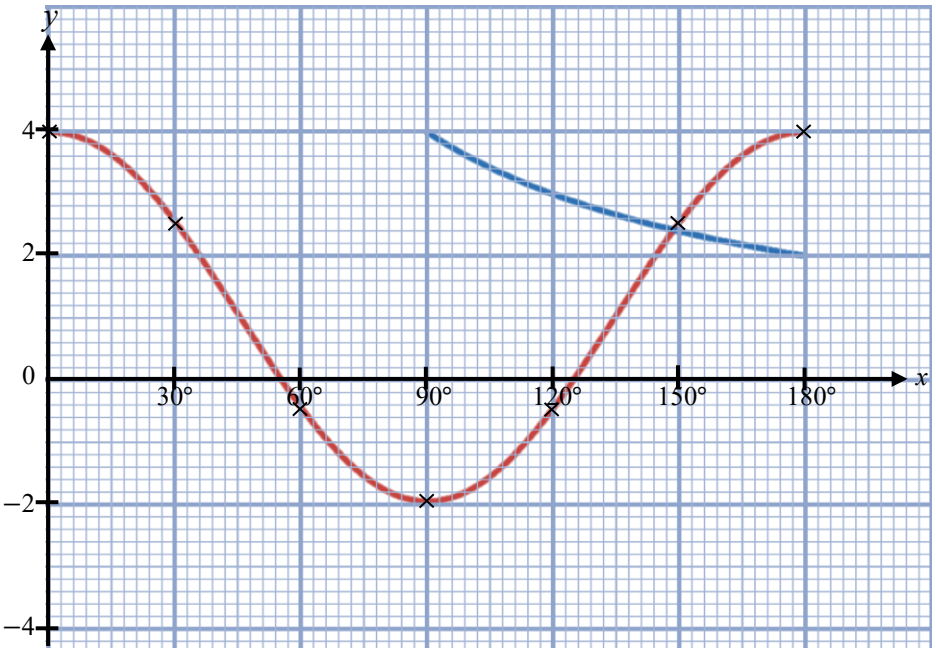
No.	Skema Pemarkahan	Sub markah	Jumlah markah
(*c*)	$(-5)^2 - 4(6)(q) \geq 0$ $q \leq \frac{25}{24}$	1M 1M	**8**
8(*a*)	$(4x-4)-(6+x) = (7x-14)-(4x-4)$ Janjang Aritmetik // Jujukan Aritmetik // Arithmetic Progression **&** $d_1 = d_2 = 3x - 10$	1M 1M	
(*b*)	$d =$ 2 $10+(14-1)(2)^*$ 36	1M 1M 1M	
(*c*)	$\frac{28}{2}[2(10)+(28-1)(2)]$ Ya, $1036 > 1000$	1M 1M	**7**
9(*a*)	1 **NMA**	1M	
(*b*)	Guna hukum $a^m \times a^n = a^{m+n}$ @ $(a^m)^n = a^{mn}$ @ $a^m \div a^n = a^{m-n}$ @ $a^m = a^n$ @ $a^{-n} = \frac{1}{a^n}$ @ $\log_a mn = \log_a m + \log_a n$ @ $\log_a\left(\frac{m}{n}\right) = \log_a m - \log_a n$ @ $\log_a m^n = n\log_a m$ Bandingkan *indeks $y = \frac{6x-1}{4}$ // $y = \frac{3x}{2} - \frac{1}{4}$	1M 1M 1M	

No.	Skema Pemarkahan	Sub markah	Jumlah markah
(*c*)	Guna hukum $\log_a mn = \log_a m + \log_a n$ @ $\log_a\left(\frac{m}{n}\right) = \log_a m - \log_a n$ @ $\log_a m^n = n\log_a m$ @ $a^m \times a^n = a^{m+n}$ @ $(a^m)^n = a^{mn}$ @ $a^m \div a^n = a^{m-n}$ @ $a^m = a^n$ @ $a^{-n} = \frac{1}{a^n}$ 3	1M 1M	**6**
10(*a*)	<table><tr><td></td><td>$x = 3$ **Nota:** Terima $1 < x < 4$</td><td>$x = 4$</td><td>$x = 5$ **Nota:** Terima $x > 4$</td></tr><tr><td>$\frac{dy}{dx}$</td><td>$^*(-8)$</td><td>0</td><td>$^*(-16)$</td></tr><tr><td>Tanda $\frac{dy}{dx}$</td><td>–</td><td>0</td><td>–</td></tr><tr><td>Lakaran tangen</td><td>  </td><td></td><td>  </td></tr><tr><td>Lakaran graf</td><td colspan="3">  </td></tr></table> Titik lengkok balas // Inflection point	1M 1M	

No.	Skema Pemarkahan	Sub markah	Jumlah markah
(*b*)	$\frac{\mathrm{d}A}{\mathrm{d}x} = 8\pi x - \frac{216\pi}{x^2}$	1M	
	$\delta A = \left[8(3.142)(10.5) - \frac{216(3.142)}{10.5^2}\right]^{*} (0.2)$	1M	
	$\frac{^{*}\delta A}{4(3.142)\left(10.5^2 + \frac{54}{10.5}\right)} \times 100$	1M	
	3.55%	1M	
(*c*)	$\frac{8}{2}x^2 + 3x \; [+c]$	1M	
	Ganti (1, 6) ke dalam $^{*}\left(y = \frac{8}{2}x^2 + 3x \; + c\right)$ **DAN** Selesaikan untuk *c*	1M	
	$y = 4x^2 + 3x - 1$	1M	**9**
11(*a*)	$^{9}C_1 \times {}^{6}C_2 \; @ \; {}^{9}C_2 \times {}^{6}C_1$	1M	
	351	1M	
(*b*)	$\frac{^{6}P_6}{2!} \; @ \; \frac{6!}{2!}$	1M	
	360	1M	
(*c*)	$^{9}C_3 \times {}^{2}C_2 \times \frac{(5-1)!}{2!} \; @ \; {}^{9}C_3 \times 1 \times {}^{4}C_1 \times (5-1)! \; @$ $^{9}C_3 \times {}^{4}C_2 \times (5-1)!$	1M	
	$\left({}^{9}C_3 \times {}^{2}C_2 \times \frac{(5-1)!}{2!}\right) + \left({}^{9}C_3 \times 1 \times {}^{4}C_1 \times (5-1)!\right) +$ $\left({}^{9}C_3 \times {}^{4}C_2 \times (5-1)!\right)$	1M	
	21168	1M	**7**

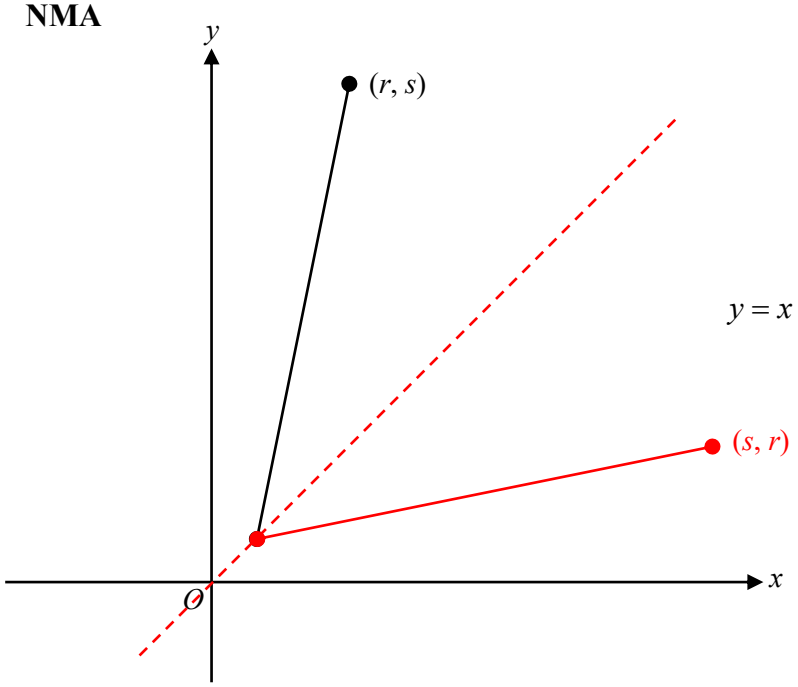
No.	Skema Pemarkahan	Sub markah	Jumlah markah
12(*a*)	1.556 // $\frac{14}{9}$	1M	
(*b*)	Tulis $\mathrm{P}\left(Z \le \frac{22.41-\mu}{\sigma}\right) = 0.16$ **Nota:** Terima $\mathrm{P}\left(Z \le \frac{22.41-17\sigma}{\sigma}\right) = 0.16$	1M	
	-0.994 Dilihat @ tersirat	1M	
	$\frac{22.41-17\sigma}{\sigma} = -0.994$	1M	
	1.400	1M	**5**
13(*a*)	i) 3 **NMA**	1M	
	ii) 180° // π **NMA**	1M	
(*b*)	(i)	1M	

y	4	2.5	−0.5	−2	−0.5	2.5	4



8

	7* titik diplot betul	1M	
	Lukis graf $y = 3\cos 2x + 1$ untuk $0° \le x \le 180°$ **DAN** Lengkung yang licin **DAN** Titik-titik bersambung	1M	
	(ii) $y = \frac{360°}{x}$ dilihat	1M	
	Lukis graf $y = \frac{360°}{x}$	1M	
	$144^o \leftrightarrow 150^o$	1M	
14(*a*)	(i) $a = \frac{1}{b}$ **NMA**	1M	
	(ii) Menukar bentuk ln kepada bentuk indeks.	1M	
	Mengambil mana-mana hukum log dan indeks.	1M	
	$x = e^y - 3$	1M	
(*b*)	$\left(\sqrt{x}+6\right)^2 = 9\left(\sqrt{x}\right)^2$	1M	
	Guna $\sqrt{x} \times \sqrt{x} = x$	1M	
	$2x - 3\sqrt{x} - 9 = 0$	1M	
	9	1M	**8**

No.	Skema Pemarkahan	Sub markah	Jumlah markah
15(a)	$gh(x) = 22k - 15x$	1M	
	$2k + 5h(x) = 22k - 15x$	1M	
	$^{*}\left[4k - 3(m+k)\right] = a$	1M	
	$m = \dfrac{k-a}{3}$	1M	
(b)	$g^{-1}(x) = \dfrac{x+4}{5}$	1M	
	Cari $gg^{-1}(x)$ @ $g^{-1}g(x)$	1M	
	$gg^{-1}(x) = g^{-1}g(x) = x$	1M	
(c)	**NMA**  	1M	**8**
	PERATURAN PEMARKAHAN TAMAT		