

SULIT

1
3472/1



**PROGRAM GEMPUR KECEMERLANGAN
SIJIL PELAJARAN MALAYSIA 2017
ANJURAN BERSAMA
MAJLIS PENGETUA SEKOLAH MALAYSIA NEGERI
PERLIS
DAN
MAJLIS GURU CEMERLANG NEGERI PERLIS**

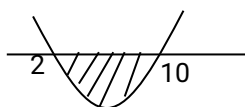


**SIJIL PELAJARAN MALAYSIA 2017
MATEMATIK TAMBAHAN
Kertas 1
Peraturan Pemarkahan
Ogos**

3472/1

UNTUK KEGUNAAN PEMERIKSA SAHAJA

Kertas soalan ini mengandungi 5 halaman bercetak.

NUMBER	SOLUTION AND MARK SCHEME	SUB MARKS	TOTAL MARKS
*B = Be given mark / Diberi markah			
1	294 B1 : $\frac{14}{2}[2(8)+13(2)]$	2	2
2	$n = 9$ B2 : $n \log_{10} \frac{3}{2} = \log_{10} \frac{110}{3}$ B1 : $\frac{3\left(\frac{3^n}{2} - 1\right)}{\frac{3}{2} - 1} > 220$	3	3
3	250 B2 : $\frac{50}{1 - \frac{4}{5}}$ B1 : $r = \frac{4}{5}$	3	3
4	a) $p=3$ b) $k=4$ c) $x=3$	1 1 1	3
5	$2 < x < 10$ B3 : $(x-2)(x-10) < 0$ or B3 :  B2 : $-x^2 + 12x - 20 > 0$ B1 : $x(12-x) > 20$	4	4
6	$h = -5$ B2 : $\frac{-3h+1}{2} = 2\alpha^2$ B1 : $\alpha = 2$	3	3
7	$k : m = 5 : 6$ B2 : $\frac{k^2}{m^2} = \frac{25}{36}$ B1 : $(5m)^2 - 4(k)(9k) = 0$	3	3

8	$W = \frac{2}{9}$ $\text{B2: } \frac{2}{9}(2^x \cdot 3^x) = W(2^x \cdot 3^x)$ $\text{B1: } 2^x \cdot 2^1 \cdot \frac{3^x}{3^2} = W(3^x \cdot 2^x)$	3	3
9	$p = 3$ $\text{B3: } 576 p^4 = 6^6$ $\text{B2: } \log_p 6^6 = \log_p 576 p^4$ $\text{B1: } \log_p 6^6 = \log_p p^4 + \log_p 576$	4	4
10	<p>a) satu kepada satu</p> <p>b) $p = 6$</p>	1 1	2
11	<p>a) $g^{-1}(3) = 1$ B1 : $7x - 4 = y$</p> <p>b) $h = 10$</p>	2 1	3
12	$y = 3x - 13$ $\text{B2: } y - 5 = 3(x - 6)$ $\text{B1: } m = 3$	3	3
13	$k = 6$ $\text{B2: } 90 - 5k = 60$ $\text{B1: } \frac{1}{2} 0 + 40 - 5k - (-50) - 0 - 0 = 30$	3	3
14	<p>a) $h = 3$ B1 : $h - 3 = 0$</p> <p>b) $k = -5$</p>	2 1	3
15	<p>a) $\overrightarrow{MO} = \begin{pmatrix} -10 \\ -8 \end{pmatrix}$</p> <p>b) $\overrightarrow{MO} = \begin{pmatrix} -10 \\ \sqrt{164} \\ -8 \\ \sqrt{164} \end{pmatrix}$</p>	1 2	3

	$B1 : \overrightarrow{MO} = \sqrt{164}$		
16	-35.84π $B2 : 256\pi \times (-0.14)$ $B1 : \frac{dv}{dj} = 256\pi$	3	3
17	$x = 23.58^\circ, 156.42^\circ, 199.47^\circ, 340.53^\circ$ $B3 : x = 23.58^\circ, 156.42^\circ$ $B2 : (5 \sin x - 2)(3 \sin x + 1) = 0$ $B1 : 15 \sin x^2 - \sin x - 2 = 0$	4	4
18	$\frac{11}{40}$ $B2 : \frac{1}{2} \left[\frac{2^2}{(2+3)} - \frac{1^2}{(1+3)} \right]$ $B1 : \frac{1}{2} \left[\frac{x^2}{(x+3)} \right]_1^2$	3	3
19	$y = \frac{1}{2}x^3 - x + 5$ $B2 : y + x = -\frac{1}{2}x^3 + 5$ $B1 : m = -\frac{1}{2}$	3	3
20	a) 565 722 720 $B1 : {}^{32}C_{15}$ b) 155 195 040 $B1 : {}^{12}C_6 \times {}^{20}C_9$	2 2	4
21	$\frac{49}{153}$ or 0.3203 $B2 : \left(\frac{4}{18} \times \frac{3}{17} \right) + \left(\frac{6}{18} \times \frac{5}{17} \right) + \left(\frac{8}{18} \times \frac{7}{17} \right)$	3	3

	$B1 : \left(\frac{4}{18} \times \frac{3}{17}\right) \text{ or } \left(\frac{6}{18} \times \frac{5}{17}\right) \text{ or } \left(\frac{8}{18} \times \frac{7}{17}\right)$		
22	<p>a) 1.476 B1 : $P(z > k) = 0.5 - 0.43$</p> <p>b) 15.24 B1 : $1.476 = \frac{22.62 - \mu}{5}$</p>	2 2	4
23	<p>a) 1.920</p> <p>b) 43.086 // 43.090 B2 : $6.771 + 6.771 + 6.771 \left(250 \times \frac{\pi}{180}\right)$ B1 : $r = 6.771$</p>	1 3	4
24	<p>a) 4 B1 : $\frac{4p + 48}{8} = 8$</p> <p>b) 20 B1 : $8 \times 2 + 4$</p>	2 2	4
25	<p>5.8296 B2 : $\frac{19131}{24} - \left(\frac{663}{24}\right)^2$ B1 : 19131</p>	3	3