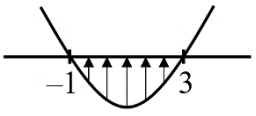
PROGRAM GEMPUR KECEMERLANGAN
SIJIL PELAJARAN MALAYSIA 2018
NEGERI PERLIS

SIJIL PELAJARAN MALAYSIA 2018 3472/1(PP)

MATEMATIK TAMBAHAN
Kertas 1
Peraturan Pemarkahan
Ogos

UNTUK KEGUNAAN PEMERIKSA SAHAJA

Peraturan pemarkahan ini mengandungi 6 halaman bercetak

No.	Solution and Mark Scheme		Sub Marks	Total Marks
*B = Be given mark / Diberi markah				
1(*a*)	Arithmetic progression		**1**	**2**
(*b*)	$p = 52°$		**1**	
2	$k = 4$	3	**3**	**3**
	$(3k+4)(k-4)=0$	B2		
	$\frac{6k+8}{3k+4} = \frac{3k+4}{2k}$	B1		
3	$k = 33$	3	**3**	**3**
	$\frac{0.09}{1-0.01}$	B2		
	$a = 0.09$ *or* $r = 0.01$	B1		
4(*a*)	$p = 2$		**1**	**3**
(*b*)	$q = 8$		**1**	
(*c*)	$x = 2$		**1**	
5	$-1 \le x \le 3$	4	**4**	**4**
	 *or* 	B3		
	or equivalent method			
	$(x+1)(x-3) \le 0$ *or* $(-x-1)(-x+3) \ge 0$	B2		
	$2x^2 - 4x \le 6$ *or* $-2x^2 + 4x \ge -6$	B1		
6	$2x^2 + 5x - 1 = 0$	3	**3**	**3**
	$\text{SOR}_{\text{New}} = -\frac{5}{2}$ *or* $\text{POR}_{\text{New}} = -\frac{1}{2}$	B2		
	$\alpha + \beta = -5$ *or* $\alpha\beta = -2$	B1		

No.	Solution and Mark Scheme		Sub Marks	Total Marks
7	$p > \frac{k^2}{16}$	3	**3**	**3**
	$k^2 - 4(p)(4) < 0$	B2		
	$k^2 - 4(p)(4)$	B1		
8	$x = \frac{1}{2}$	3	**3**	**3**
	$2x - 1 = 0$	B2		
	$9^x = \frac{1}{9^{x-1}}$	B1		
9	$p = \frac{1}{x^x}$	4	**4**	**4**
	$px^{2x} = x^x$ *or* $p = \frac{x^x}{x^{2x}}$	B3		
	$\log_p px^{2x} = \log_p x^x$ *or* $\log_p \frac{x^x}{x^{2x}} = 1$	B2		
	$\log_p p + \log_p x^{2x} = \log_p x^x$ *or* $\log_p x^x - \log_p x^{2x} = 1$	B1		
10(*a*)	$m = 2$		**1**	**2**
(*b*)	Many to one		**1**	
11	$h = 3$ and $k = -5$	3	**3**	**3**
	$h = 3$ *or* $k = -5$	B2		
	$f(x) = \frac{-3x+5}{-x+2}$ // $f(x) = \frac{3x-5}{x-2}$	B1		

[*Lihat halaman sebelah*

No.	Solution and Mark Scheme		Sub Marks	Total Marks
12	(7, 8)	3	**3**	**3**
	$\frac{2x-8}{3}=2$ *or* $\frac{2y+2}{3}=6$	B2		
	$\left(\frac{2x+1(-8)}{3}, \frac{2y+1(2)}{3}\right)=(2, 6)$	B1		
	OR			
	(7, 8)	3		
	$x=\frac{2-(-8)}{2}+2$ and $y=\frac{6-2}{2}+6$	B2		
	$x=\frac{2-(-8)}{2}+2$ *or* $y=\frac{6-2}{2}+6$	B1		
13(*a*)	$w=3$ and $z=-2$	2	**2**	**3**
	$w=3$ *or* $z=-2$	B1		
(*b*)	1		**1**	
14	$h=2$ and $k=-\frac{1}{2}$	3	**3**	**3**
	$h=2$	B2		
	$h-2=0$ *or* $2k+3-h=0$	B1		
15	$\frac{-\underline{i}+6\underline{j}}{\sqrt{37}}$ // $\begin{pmatrix}-\frac{1}{\sqrt{37}}\\ \frac{6}{\sqrt{37}}\end{pmatrix}$	3	**3**	**3**
	$\sqrt{(-1)^2+6^2}$ // $\sqrt{37}$	B2		
	$\overrightarrow{OA}=-\underline{i}+6\underline{j}$ // $\overrightarrow{OA}=\begin{pmatrix}-1\\ 6\end{pmatrix}$	B1		
16	0.1140	3	**3**	**3**
	$\partial V=6(0.975)^2(0.02)$	B2		
	$9.5=4(2x^2)+2x^2$	B1		

No.	Solution and Mark Scheme		Sub Marks	Total Marks
17	41.71°, 131.71°, 221.71°, 311.71° // 41°42', 131°42', 221°42', 311°42'	4	**4**	**4**
	41.71°, 131.71° // 41°42', 131°42' *or* 41.71°, 221.71° // 41°42', 221°42'	B3		
	Base angle = 83.41°	B2		
	$\sin 2\beta\cos 60° + \cos 2\beta \sin 60°$	B1		
18	$\frac{4}{9}$	3	**3**	**3**
	$\frac{1}{3}\left[\frac{4}{3}\right]$	B2		
	$\frac{1}{3}\left[\frac{2x+1}{3x^2}\right]_{-1}^{1}$	B1		
19	$p = -1$ and $q = -2$	3	**3**	**3**
	$q = -2$	B2		
	$\frac{y}{x} = -qx^2 + p$	B1		
20(*a*)	126	2	**2**	**4**
	${}^9C_5 \times {}^7C_0$	B1		
(*b*)	336	2	**2**	
	$\left({}^7C_4 \times {}^9C_1\right) + \left({}^7C_5 \times {}^9C_0\right)$	B1		
21(*a*)	$\frac{8}{17}$	2	**2**	**3**
	$\left(\frac{9}{17}\times\frac{8}{16}\right) + \left(\frac{8}{17}\times\frac{7}{16}\right)$	B1		
(*b*)	$\frac{9}{34}$		**1**	

[*Lihat halaman sebelah*

No.	Solution and Mark Scheme		Sub Marks	Total Marks
22(*a*)	$p=\frac{4}{5}$ and $m=\frac{256}{625}$	3	**3**	**4**
	$p=\frac{4}{5}$	B2		
	${}^5C_5p^5q^0=\frac{1024}{3125}$ *or* ${}^5C_0p^0q^5=\frac{1}{3125}$	B1		
(*b*)	0.8944		**1**	
23	$\frac{5}{2}$ // 2.5	4	**4**	**4**
	$(2\theta-5)(5\theta-8)=0$ *or* $\theta=\frac{5}{2},\frac{8}{5}$	B3		
	$\frac{1}{2}\left(\frac{54}{2+\theta}\right)^2\theta=180$	B2		
	$r\theta+2r=54$ dan $\frac{1}{2}r^2\theta=180$ *or* $r=\frac{54}{2+\theta}$	B1		
24(*a*)	$m=8$ and $n=4$	3	**3**	**4**
	$m+n=12$	B2		
	$\frac{3+4+4+6+10+12+12+m+n}{9}=7$	B1		
(*b*)	6		**1**	
25(*a*)	2		**1**	**3**
(*b*)	0.64 // $\frac{16}{25}$	2	**2**	
	$\left(\frac{1}{3}\right)^2\times2.4^2$	B1		

PERATURAN PEMARKAHAN TAMAT

