

SULIT



PRAKTIS BESTARI
PROJEK JAWAB UNTUK JAYA (JUJ) 2016



SIJIL PELAJARAN MALAYSIA
ADDITIONAL MATHEMATICS
Kertas 1/Set 2

3472/1

PERATURAN PEMARKAHAN

YAYASAN
PAHANG
PAHANG STATE FOUNDATION

Peraturan Pemarkahan ini mengandungi 6 halaman bercetak

PERATURAN PEMARKAHAN SET 2 KERTAS 1

No	Peraturan Pemarkahan	Markah	Jumlah Markah
1	$\{-1, 0, 9\}$ B1 : $f(0) = -1$ ATAU $f(-1) = 0$ ATAU $f(2) = 9$	2	2
2	$x = \frac{2}{3}$ B2 : $x + 5 = 4x + 3$ B1 : $f^2(x) = 4x + 3$ ATAU $f.g(x) = x + 5$	3	3
3	$x = 9m$ and $y = \frac{3}{2}m$ B2 : $x = 9m$ or $y = \frac{3}{2}m$ B1 : $4x + 8y = 48$ or $4xy + x^2 = 135$ or $x = 12 - 2y$	3	3
4	$m = 3$ and $n = 5$ B2 : $m = -4$ or $n = 6$, OR $m = 3$ or $n = 5$ B1 : $x^2 - x - 12 = 0$	3	3
5	$2 < x < 8$ B1 : $(x - 2)(x - 8) < 0$	2	2
6	$f(x) = -(x + 1)^2 + 6$ B3 : $q = 6$ and $a = -1$ B2 : $2 = 4(4 - q) + q$ B1 : $a = 5 - q$ or $2 = 4a + q$	4	4

7	$m+2n-3$ B2 : $\log_3 s + \log_3 t^2 - \log_3 3^3$ OR $\log_3 st^2 - \log_3 27$ B1 : $\log_3 s = m$ OR $\log_3 t = n$	3	3
8	$t = 4$ B2: $t \geq 3.2$ OR $t \geq \frac{\log_{10} 1.36}{\log_{10} 1.1}$ B1: $\log_{10} 1.1^t \geq \log_{10} 1.36$ OR $1.1^t \geq 1.36$	3	3
9	(a) $T_8 = 114$ B1 : $a = 72$ or $T_8 = 72 + (8-1)6$ (b) 42 minit B1 : $S_{20} = \frac{20}{2} [2(72) + (20-1)6]$ or 2580	2 2	4
10	$a = \frac{25}{2}$ B2 : $a\left(\frac{1}{5}\right)^2 = \frac{1}{2}$ B1 : $r = \frac{1}{5}$	3	3
11	$y = \frac{100}{\sqrt{x}}$ B2 : $\log_{10} y = -\frac{1}{2} \log_{10} x + \log_{10} 100$ B1 : $m = -\frac{2}{4} = -\frac{1}{2}$	3	3
12	$3x^2 + 3y^2 - 30x - 16y + 15 = 0$ B3 : $x^2 + 6x + 9 + y^2 + 8y + 16 = 4(x^2 - 6x + 9 + y^2 - 2y + 1)$ B2 : $\sqrt{(x+3)^2 + (y+4)^2} = 2\sqrt{(x-3)^2 + (y-1)^2}$ B1: PA = 2PB	4	4

13	$y = \frac{5}{4}x - 7$ $\text{B2: } -2 = \frac{5}{4}(4) + c$ $\text{B1: } m_{\text{normal}} = \frac{5}{4}$	3	3
14	<p>a) 13</p> <p>b) $n=9$ and $m=2$</p> $\text{B2: } n - 5m = -1 \text{ or } -12 + 12m = 12$ $\text{B1: } (n - 5m)\underline{i} + (-12 + 12m)\underline{j}$	1 3	4
15	$q = -2$ $\text{B2: } \sqrt{(2)^2 + (-4 + q)^2} = \sqrt{40}$ $\text{B1: } \overline{AB} = 2\underline{i} + (-4 + q)\underline{j}$	3	3
16	22.265 $\text{B2: } 16\pi - 24$ $\text{B1: } A = \frac{1}{2}(8)^2\left(\frac{\pi}{2}\right)$	3	3
17	$\sqrt{m^2 - 1}$ $\text{B2: } -\sqrt{m^2 - 1} \text{ or seen } -1$ $\text{B1: } \cos\theta \cos 180^\circ - \sin\theta \sin 180^\circ$	3	3
18	$16y = x + 161$ $\text{B3: } 10 = \frac{1}{16}(-1) + c$ $\text{B2: } 4x - 12 = -16$ $\text{B1: } \frac{dy}{dx} = 4x - 12 \text{ or } m_t = -16$	4	4

19	$\frac{42}{27}$ $B2 : \frac{1}{3} \left[\left(\frac{(3-6)}{3^2} - \frac{(1-6)}{1^2} \right) \right]$ $B1 : \frac{1}{3} \left[\frac{x-6}{x^2} \right]$	3	3
20	<p>(a) 49.5</p> $B2 : \frac{(89.5 \times 3) + (69.5 \times 8) + (49.5 \times 10) + (29.5 \times 4) + (9.5 \times 5)}{3 + 8 + 10 + 4 + 5}$ $B1 : (89.5 \times 3) + (69.5 \times 8) + (49.5 \times 10) + (29.5 \times 4) + (9.5 \times 5)$ <p>(b) 55.5</p>	3	4
21	<p>(a) 161</p> <p>(b) 3766</p> $B1 : 3^2 = \frac{\sum x^2}{7} - 23^2$	1 2	3
22	<p>84</p> $B2 : ({}^5C_2 \times {}^4C_4) + ({}^5C_3 \times {}^4C_3) + ({}^5C_4 \times {}^4C_2) + ({}^5C_5 \times {}^4C_1)$ $B1 : ({}^5C_2 \times {}^4C_4) \text{ or } ({}^5C_3 \times {}^4C_3) \text{ or } ({}^5C_4 \times {}^4C_2) \text{ or } ({}^5C_5 \times {}^4C_1)$	3	3
23	$\frac{7}{24}$ $B2: \left(\frac{6}{36} \times \frac{1}{2} \right) + \left(\frac{30}{36} \times \frac{1}{4} \right)$ <p>B1:</p> $\left(\frac{6}{36} \times \frac{1}{2} \right) \quad \text{or} \quad \left(\frac{30}{36} \times \frac{1}{4} \right)$	3	3

24	<p>0.8503</p> <p>B2 : ${}^7C_6(0.9)^6(0.1)^1 + {}^7C_7(0.9)^7(0.1)^0$</p> <p>B1 : ${}^7C_6(0.9)^6(0.1)^1$ or ${}^7C_7(0.9)^7(0.1)^0$ or $p=0.9$ or 0.1 or $P(X=6)+P(X=7)$</p>	3	3
25	<p>(a) $k=23$</p> <p>B1 : $\frac{23-k}{3}=1$</p> <p>(b) 0.6999</p> <p>B1 : $P(-1.667 \leq z \leq 0.667)$ or $P\left(\frac{25-30}{3} \leq z \leq \frac{32-30}{3}\right)$</p>	2	4