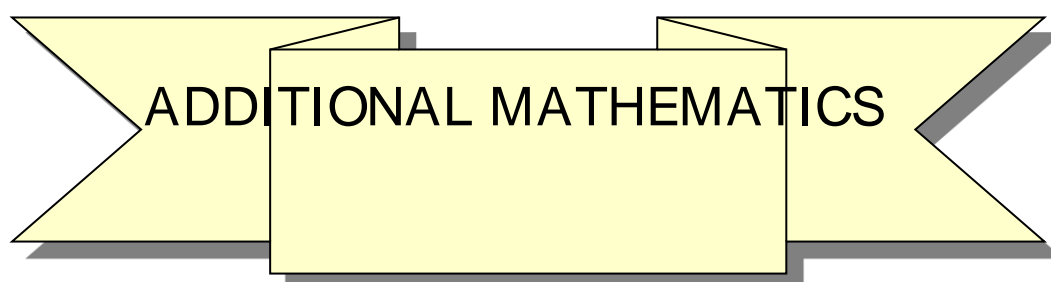


MAJLIS PENGETUA SEKOLAH MENENGAH MALAYSIA
CAWANGAN NEGERI SEMBILAN DARUL KHUSUS

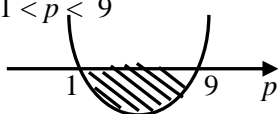
**PROGRAM PENINGKATAN AKADEMIK TINGKATAN 5
SEKOLAH-SEKOLAH MENENGAH NEGERI SEMBILAN 2015**

PERATURAN PEMARKAHAN



PAPER 1

MARKING SCHEME FOR ADDITIONAL MATHEMATICS FORM 5 PAPER 1 - 2015

No.	Marking Scheme	Marks	Full Marks
No.	(a) one to one Marking Scheme	Marks	Full Marks
7	(b) $\frac{7}{29}$ or equivalent	1 3	
			3
2	a) $3 - 2x$ $3 - 4\left(\frac{x}{2}\right)$ b) $\frac{16}{5}$ $3 - 2x = \frac{x}{2} - 5$	2 B1 2 B1	4
3	(a) $-\frac{13}{2}$ (b) $\frac{7}{2}$ $k^{-1}(x) = \frac{5}{x-1}$ or $\frac{5}{m-1}$	1 2 B1	3
4	$1 < p < 9$  $(3 - p)^2 - 4(p)(1) < 0$	3 B2 B1	3
5	$f(x) = -\frac{9}{32}(x - 4)^2 + 6$ or $f(x) = -\frac{9}{32}x^2 + 6$ $\frac{3}{2} = a(0 - 4)^2 + 6$ or $\frac{3}{2} = (-4)^2a + 6$ Maximum point (4,6) or y-intercept = $\frac{3}{2}$ or $f(x) = a(x - 4)^2 + 6$ or maximum point (0, 6) or $f(x) = ax^2 + 6$	3 B2 B1	3
6	$p = -\frac{17}{10}$ or equivalent $2\left(\frac{3}{4}\right)^2 - \frac{3}{4}p + 2p + 1 = 0$	2 B1	2

	$4(2 - 3n) - \frac{5}{2}n = 7$	B2	
No.	Marking Scheme	Marks	Full Marks
13	$(2^4)^{2-3n} (2^{5n})^{\frac{1}{2}}$ or 2^7 a) $(2k+1)i - 12j$	B3 2	
8	$2(k-i-kj) + i + 2j$ 5a) $n=15$ & k	B1 4 B2	4 4
	$\log_9 9^{5-n} = \log_9 9 + \log_9 4$ $\log_9(9 \times 4)$ or using logarithm base 9	B2 B1	
9	a) $r = \frac{1}{4}$ b) $\frac{80}{3}$ $\frac{20}{1 - \frac{1}{4}}$	1 2 B1	3
10	16 $\frac{n}{2}[2(32) + (n-1)(12)] < 2000$ 32, 44, 56, ... or $d = 12$ and $a = 32$	3 B2 B1	3
11	a) y^2 b) $h = \frac{4}{3}$ $13 = 5 + h(6)$	1 2 B1	3
12	a) 1001.7 cm^2 $\frac{1}{2}(30)^2(2.65) - \frac{1}{2}(12)^2(2.65)$ $\frac{1}{2}(30)^2(2.65)$ or $\frac{1}{2}(12)^2(2.65)$ b) 7	3 B2 B1 1	4

	$(2k+1)^2 + (-12)^2 = 15^2$	B1	
14	a) Draw resultant vector $\vec{p} - 3\vec{q}$ in diagram Museum b) $3\vec{q} - 2\vec{p}$	1 1 1	3
15	$h = 4$ and $k = -1$ $h = 4$ or $k = -1$ $\frac{2h + 3(-6)}{2 + 3} = -2$ or $\frac{2(9) + 3k}{2 + 3} = 3$	3 B2 B1	3
16	(a) $\frac{1}{p}$ (b) $-\frac{p}{\sqrt{1-p^2}}$ $\sqrt{1-p^2}$ seen	1 2 B1	3
17	a) $k = 4$ $3 - k - (k + 1) = 1 - 2k - (3 - k)$ b) -403 $\frac{13}{2} [2(5) + 12(-6)]$	2 B1 2 B1	4
No.	Marking Scheme	Marks	Full Marks
18	(a) 16 (b) $k = \frac{26}{25}$	1 3 B2	4

	$16 - \left[\frac{kx^2}{2} \right]_0^5 = 3$ $\int_0^5 h(x) dx - \int_0^5 kx dx = 3$	B1	
19	$(a) -\frac{3}{2}$ $(b) y = -2x + 8$ $y - 4 = -2(x - 2)$ $\frac{dy}{dx} = -3x + 4 \text{ or } m = -2$	1 3 B2 B1	4
20	$\frac{dx}{dt} = \frac{1}{11}$ $2 = [8(3) - 2] \times \frac{dx}{dt}$ $\frac{dy}{dx} = 8x - 2 \text{ or } \frac{dy}{dt} = 2$	3 B2 B1	3
21	$-\frac{2}{3}$ $-\frac{1}{3} \text{ seen}$	2 B1	2
22	72 $120 - 48$ $2! \times 4! \text{ or } 48 \text{ or } 5! \text{ or } 120$	3 B2 B1	3

No.	Marking Scheme	Marks	Full Marks
23	$(a) \frac{1}{12}$ $\frac{1}{3} \times \frac{1}{4}$ $(b) \frac{5}{12}$ $\left(\frac{1}{3} \times \frac{3}{4} \right) + \left(\frac{2}{3} \times \frac{1}{4} \right)$	2 B1 2 B1	4

24	<p>(a)14</p> $54 = \frac{3000}{12} - (\bar{x})^2$ <p>(b)2.16</p>	<p>2</p> <p>B1</p> <p>1</p>	<p>3</p>
25	<p>0.2616</p> ${}^{10}C_8(0.65)^8(0.35)^2 + {}^{10}C_9(0.65)^9(0.35)^1 + {}^{10}C_{10}(0.65)^{10}(0.35)^0$ ${}^{10}C_8(0.65)^8(0.35)^2 \text{ or } {}^{10}C_9(0.65)^9(0.35)^1$ $\text{or } {}^{10}C_{10}(0.65)^{10}(0.35)^0$	<p>3</p> <p>B2</p> <p>B1</p>	<p>3</p>