

*Additional
Mathematics
Paper 1*

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**PEPERIKSAAN PERCUBAAN SPM
TAHUN 2018**

**ANJURAN
JABATAN PENDIDIKAN NEGERI KEDAH
MAJLIS PENGETUA SEKOLAH MALAYSIA (KEDAH)**

**ADDITIONAL MATHEMATICS
MARKING SCHEME
Paper 1**

MODUL 1

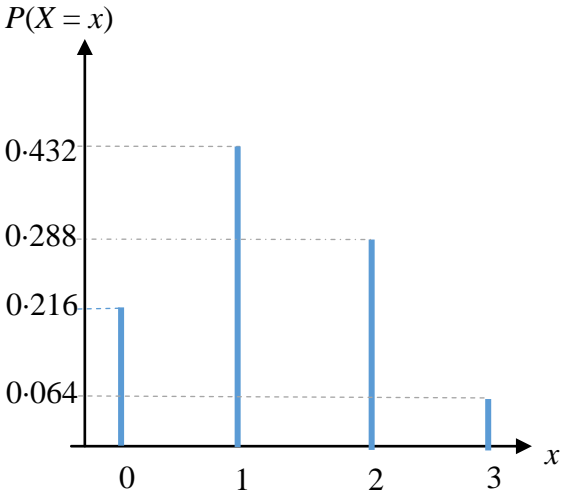
PEPERIKSAAN PERCUBAAN SPM TAHUN 2018
Marking Scheme
Additional Mathematics Paper 1

Question	Solution/ Marking Scheme	Answer	Marks
1	(b) B1: $ 2(-2)+q =5$	(a) 0 (b) $q=9$ atau $q=-1$	1 2
2	B1: (a) f and (b) g (both) or (c) $f^{-1}g^{-1}$	(a) f (b) g (c) $f^{-1}g^{-1}$	2
3	(b) B1: $\frac{1}{4}\left(\frac{x^2-4}{p}\right)$	(a) $f^{-1}(x) = \frac{x-4}{p}$ (b) $p = \frac{1}{12}$	1 2
4	B2: $\alpha = \frac{1}{2}$ B1: $3\alpha^2 = \frac{p}{2}$ and $\alpha + 3\alpha = 2$	$p = \frac{3}{2}$	3
5	(a) B1: $x^2 - 6x + \left(\frac{-6}{2}\right)^2 - \left(\frac{-6}{2}\right)^2 + k$ (b) B1: $k - 9 = 6$	(a) $(x-3)^2 + k - 9$ (b) $k = 15$	2 2
6	B1 $(x-4)(x+3) \geq 0$	$x \leq -3$, $x \geq 4$	2
7	(a) B1: $t = 8$ (b) B1: $2000(1.05)^8 \times \frac{13}{100}$	(a) RM2955 (b) RM384.14 / RM384.15	2 2

8	<p>B3 : $\frac{\log_2 2r + 3\log_2 2^t - 5\log_2 2}{3}$</p> <p>B2: $\frac{\log_2 m + \log_2 m^3 - \log_2 32}{\log_2 8}$</p> <p>B1 : $\log_8 mn^3 - \log_8 32$</p>	$\frac{r+3t-5}{3}$	4
9	<p>(b) B1 : $\frac{1}{1-p} = \frac{5}{4}$</p>	<p>(a) $-1 < p < 1$</p> <p>(b) $p = \frac{1}{5}$</p>	1 2
10	<p>B2: (RM) 120 and (RM)327.67</p> <p>B1 : seen (RM) 120 or 327.67</p>	<p>Joni and RM207.67</p>	3
11	<p>B2: $\frac{(2x+1)(3x^2) - (x^3 - 7)(2)}{(2x+1)^2}$</p> <p>B1 : $3x^2$ or 2</p>	$\frac{4x^3 + 3x^2 + 14}{(2x+1)^2}$	3
12	<p>B3 : $4\pi \times (-0.1)$</p> <p>B2: $\frac{dV}{dh} = \frac{1}{4}\pi h^2$</p> <p>B1 : $r = \frac{1}{2}h$ or $\partial h = -0.1$</p>	-0.4π	4
13	<p>(b) B1: $17 = 2(3k+1)$</p>	<p>(a) $\frac{y}{x} = 2(3x+1)$</p> <p>(b) $k = \frac{5}{2}$</p>	1 2

14	<p>B2: $y - 6 = \frac{3}{20}(x - 10)$</p> <p>B1: $m = \frac{3}{20}$</p>	$y = \frac{3}{20}x + \frac{9}{2}$	3
15	<p>B2: $\frac{2}{7} + \left(\frac{5}{7} \times \frac{5}{8} \times 0.4\right) + \left(\frac{5}{7} \times \frac{3}{8} \times 0.4\right)$</p> <p>B1: $\left(\frac{5}{7} \times \frac{5}{8} \times 0.4\right)$ or $\left(\frac{5}{7} \times \frac{3}{8} \times 0.4\right)$</p>	$\frac{4}{7}$	3
16	<p>B2: $\cos \theta = -\frac{1}{2}$ or 60° <i>seen</i></p> <p>B1: $\cot \theta = \frac{\cos \theta}{\sin \theta}$</p>	$\theta = 120^\circ, 240^\circ$	3
17		<p>(a) $p = 5$</p> <p>(b) $q = \frac{4}{3}\pi$</p> <p>(c) $m = \frac{3}{2}$</p>	1 1 1
18	<p>(a) B1: $\frac{2 + 2p + 10 + p + 10 + 18 + 3p + 14}{6}$</p> <p>(b) B1: $18 - 2p = 12$</p>	<p>(a) $p = k - 9$</p> <p>(b) $p = 3$</p>	2 2

19	<p>B3: $\frac{3}{2}j^2 - 2\left(\frac{1}{2}j^2(1.047)\right)$</p> <p>B2: $\frac{3}{2}j^2$</p> <p>B1: $ST = \frac{3}{2}j$ or $\frac{1}{2}j^2(1.047)$</p>	$j = 6$	4
20	<p>B2 $r! = 6$</p> <p>B1: $6\left(\frac{10!}{r!(10-r)!}\right) = \frac{10!}{(10-r)!}$</p>	3	3
21	<p>B2: $n = -3$ atau $m = 8$</p> <p>B1: $2 - 4 - n = 1$ atau $-3 + m - 4 = 1$</p>	$n = -3$ and $m = 8$	3
22		<p>(a) $\overline{HA} = \overline{ED}$</p> <p>(b) $\underline{a} + \underline{b} - \underline{c}$</p>	1 1
23	<p>B2: $\frac{1}{2}(11)(3) - 7.5$</p> <p>B1: $\frac{1}{2}(8+3)(3)$</p>	9	3

24	<p>B2 : 2 turus betul termasuk turus untuk $x = 1$ atau $x = 2$</p> <p>B1: { 0, 1,2,3} atau</p> <p>0.432 dan 0.288</p>		3
25	<p>(b) B2: $\frac{x-16}{5} = 0.45$</p> <p>B1: $h = 0.45$</p>	<p>(a) $z = \frac{x - \mu}{\sigma}$</p> <p>(b) 18.25</p>	1 3

END OF MARKING SCHEME