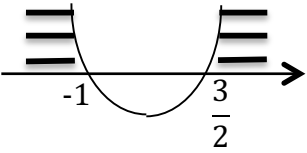


**PROGRAM PENINGKATAN PRESTASI AKADEMIK  
PERCUBAAN SIJIL PELAJARAN MALAYSIA 2017  
SET A**

MATEMATIK TAMBAHAN KERTAS 1

No	Solution and Marks Scheme	Sub Marks	Total Marks
1.	30 96 or 126	2 B1	2
2	$p = 0.6$ $np = 6$ or $npq = 2.4$	2 B1	2
3	(a) 336 (b) 1680 ${}^2P_2 \times 7 \times {}^6P_3$	1 2 B1	3
4	(a) $\frac{1}{2}$ $\frac{7}{10} = \frac{1}{5} + p(\text{Osman})$  (b) 1	2  B1  1	3
5	(a) 4  (b) $k = -2$  $6 - \left[ \frac{kx^2}{2} \right]_1^3 = 14$	1  2  B1	3
6	$h = 4$ $-5 = \left( \frac{3}{2}h^2 + 1 \right) \times (-0.2)$  $\frac{dv}{dh} = \frac{3}{2}h^2 + 1$ or $\frac{dv}{dt} = -5$	3  B2  B1	3
7	$y = -12x + 15$  $y - 3 = -12(x - 1)$ $\frac{dy}{dx} = -6(2(1) - 1)^{-3}(2)$ or $= 12$  $\frac{dy}{dx} = -6(2x - 1)^{-3}(2)$	4  B3  B2  B1	4
8	The two lines are not parallel $-3 \neq 3$	1 1	2
9	$p = 11$ , $p = 3$	3	3

No	Solution and Marks Scheme	Sub Marks	Total Marks
	$ -14 + 2p  = 8$ $\frac{1}{2}  (0 - 12 + 10) - (12 + 0 - 2p)  = 8$	B2 B1	
10	(a) $m = 1$ , $n = 2$ $2m + n = 4$ and $-m + 35 = 5$ $\begin{pmatrix} -1 \\ 2 \end{pmatrix} + \begin{pmatrix} 5 \\ 3 \end{pmatrix}$ or $m \begin{pmatrix} 2 \\ -1 \end{pmatrix} + n \begin{pmatrix} 1 \\ 3 \end{pmatrix}$ b) $\frac{4i + 5j}{\sqrt{41}}$	3 B2 B1 1	4
11	(a) 31.20 $x = 33$  (b) 7 $f(x) \geq 0$ or $f(x) = 0$	2 B1  2 B1	4
12	$b = 3$ $a = -4$ $b^2 = 9$ and $a - ab = 8$ $g^2(x) = a - b(a - bx)$ or $g^2(x) = a - ab + b^2x$	3 B2 B1	3
13	(a) $k = -\frac{5}{2}$  (b) $g^{-1}(x) = \frac{5x}{3 - 2x}$ $3x - 2xy = 5y$	1  2 B1	3
14	$\frac{2p + 1}{p + q}$ $\frac{2\log_m 3 + \log_m m}{\log_m 3 + \log_m 4}$ $\frac{\log_m 9m}{\log_m 12}$	3  B2 B1	3
15	$x = 2, y = -1$ $-2y = 2$ or $2x - 1 = 3$  $2x + y = 3$ and $2x + 3y = 1$ $2^{3y}$ and $3^{2x}$	4 B3  B2 B1	4
16	$q = -1$ , $p = 2$ (both)	3	3

No	Solution and Marks Scheme	Sub Marks	Total Marks
	$5q = -5 \text{ or } p = \frac{3+5}{4-0}$ $y - 2x = px^2 + 5q$	B2 B1	
17	$m = -4$ , $k = \frac{9}{4}$ $-m = 4$ , $4\alpha\beta = k$ $\alpha + \beta = 2$ , $4\alpha\beta = k$	3 B2 B1	3
18	$X \leq -1 \text{ or } \frac{1}{2} < x \leq \frac{3}{2}$ $(x+1)(2x-3) \geq 0$ or  seen $x - 2x^2 + 3$	3 B2 B1	3
19	(a) 1.047 (b) 44.21 $\frac{1}{2}(12)^2(1.047) - \frac{1}{2}(6)(12)\sin 60$ $\frac{1}{2}(12)^2(1.047) \text{ or } \frac{1}{2}(6)(12)\sin 60$	1 3 B2 B1	4
20	(a) $\frac{2p}{1-p^2}$ (b) $\frac{1+p^2}{2p}$ $\frac{-p}{\sqrt{1+p^2}} \text{ or } \frac{-1}{\sqrt{1+p^2}}$	1 2 B1	3
21	(a) $p = 0.6$ $q = 0.4 \text{ or } 18q = 7.2$ (b) 0.2508 ${}^{10}C_6(0.6)^6(0.4)^4$	2 B1 2 B1	4
22	$a = 1.2$ $P(Z > a) = 0.1151$ $1 - 0.7698$	3 B2 B1	3

No	Solution and Marks Scheme	Sub Marks	Total Marks
23	$18\,898$ $62\,992.20$ $\frac{11\,400(1.05^5 - 1)}{1.05 - 1}$ $r = 1.05$	4 B3 B2 B1	4
24	a) $0.648$ $0.432 + 0.216$  b) $0.288$ $1 - (0.432 + 0.216 + 0.064)$	2 B1  2 B1	4
25	$p = 24$  $5m = 10$ and $6m^2 = p$  $5m = 10$ atau $6m^2 = p$  Nota : andaikan m adalah puncunya.	3  B2  B1	3

END OF MARKING SCHEME  
PERATURAN PEMARKAHAN TAMAT