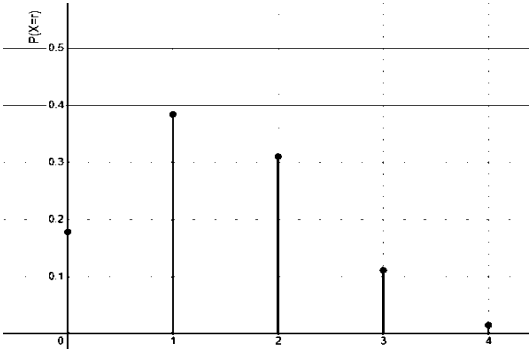


KERTAS PEPERIKSAAN TAMAT**Cadangan Pemarkahan Kertas 1:**

No			Cadangan Pemarkahan	Pecahan Markah	Markah Penuh
1	(a)	(i) (ii) (iii)	Ya Bukan Ya	3	5
	(b)	(i) (ii)	$2x + y + 3z = 150$ $x - 30 = y + x$	2	
2	(a)	(i)	$1000N - N = 645$ $12 \frac{215}{333}$	4	7
		(ii)	$\frac{5\sqrt{2} + 3\sqrt{2}}{2\sqrt{2}}$ 4		
	(b)		seen $\frac{\log_m m^2}{\log_m \sqrt{m}}$ $18 = m^{-1}$ atau $324 = m^{-2}$ $m = \frac{1}{18}$	3	
3	(a)		$y\sqrt{x} = -\frac{1}{2}x^2 + p$	1	4
	(b)		$p = 8$ $5 = -\frac{1}{2}(q) + 8$ $q = 6$	3	
4	(a)		(3, 4)	1	4
	(b)		$\frac{5(2)+1(x)}{6}$ atau $\frac{5(4.5)+1(y)}{6}$ $\frac{5(2)+1(x)}{6} = * 3$ atau $\frac{5(4.5)+1(y)}{6} = * 4$ $\left(8, \frac{3}{2}\right)$	3	

5	(a)	Use $2 \sin \frac{\theta}{2} \cos \frac{\theta}{2} = \sin 2 \left(\frac{\theta}{2} \right)$ $\sin \theta = \frac{3}{4}$ 48.59° and 131.41°	S3	6
	(b)	$-\frac{1}{\sqrt{1+t^2}}$ atau $-\frac{t}{\sqrt{1+t^2}}$ $2 \left(-\frac{1}{\sqrt{1+t^2}} \right) \left(-\frac{t}{\sqrt{1+t^2}} \right)$ $\frac{2t}{1+t^2}$	3	
6	(a)	$S_n = a + ar + ar^2 + ar^3 + \dots + ar^{n-2} + ar^{n-1}$ atau $rS_n = ar + ar^2 + ar^3 + \dots + ar^{n-1} + ar^n$	3	5
		$S_n - rS_n = a - ar^n$ atau $rS_n - S_n = ar^n - a$		
		$S_n = \frac{a(1-r^n)}{1-r}$, $r < 1$ atau $S_n = \frac{a(r^n-1)}{r-1}$, $r > 1$		
	(b)	$50000(1 - 0.05)^{n-1} = 25000$ $n = 15$	2	
7	(a)	$\frac{(x-6)(x+6)}{6-x}$ -12	2	5
	(b)	$\frac{\delta y}{\delta x} = 6x + 3\delta x$ $\frac{dy}{dx} = \lim_{\delta x \rightarrow 0} 6x + 3(0)$ $6x$	3	

8	(a)	$\int 3a \, dx = 3ax \text{ atau } \int f(x)dx = \frac{3}{4} \left[\frac{x^2}{5x-6} \right]$ $[3a(1) - 3a(0)] - \left[\frac{3}{4} \left(\frac{1}{5(1)-6} \right) - \frac{3}{4} \left(\frac{0^2}{5(0)-6} \right) \right] = 9a$ $a = \frac{1}{8}$	3	6										
	(b)	(i) $3k - \left[\left(\frac{4}{3}(2k)^3 - \frac{10}{2}(2k)^2 + 8(2k) \right) - \left(\frac{4}{3}(k)^3 - \frac{10}{2}(k)^2 + 8(k) \right) \right]$ $-\frac{28}{3}k^3 + 15k^2 - 5k$	3											
9	(a)	$X = \{0,1,2,3,4\}$	1	5										
	(b)	<table><tr><th>$X = r$</th><th>$P(X = r)$</th></tr><tr><td>0</td><td>${}^4C_0(0.35)^0(0.65)^4 = 0.1785$</td></tr><tr><td>1</td><td>${}^4C_1(0.35)^1(0.65)^3 = 0.3845$</td></tr><tr><td>2</td><td>${}^4C_2(0.35)^2(0.65)^2 = 0.3105$</td></tr><tr><td>3</td><td>${}^4C_3(0.35)^3(0.65)^1 = 0.1115$</td></tr><tr><td>4</td><td>${}^4C_4(0.35)^4(0.65)^0 = 0.0150$</td></tr></table> 1m jika salah satu rumus betul 1m jika semua kesudahan betul.  2m jika semua palang betul. 1m jika 3 – 4 palang betul. * palang pertama ($X = 0$) boleh tidak dilukis pada paksi=y.	$X = r$		$P(X = r)$	0	${}^4C_0(0.35)^0(0.65)^4 = 0.1785$	1	${}^4C_1(0.35)^1(0.65)^3 = 0.3845$	2	${}^4C_2(0.35)^2(0.65)^2 = 0.3105$	3	${}^4C_3(0.35)^3(0.65)^1 = 0.1115$	4
$X = r$	$P(X = r)$													
0	${}^4C_0(0.35)^0(0.65)^4 = 0.1785$													
1	${}^4C_1(0.35)^1(0.65)^3 = 0.3845$													
2	${}^4C_2(0.35)^2(0.65)^2 = 0.3105$													
3	${}^4C_3(0.35)^3(0.65)^1 = 0.1115$													
4	${}^4C_4(0.35)^4(0.65)^0 = 0.0150$													
10	(a)	2	1	5										
	(b)	$x = \frac{5-y}{4}$ $\frac{4}{\left(\frac{5-y}{4} \right) + 5}$ $f(x) = \frac{16}{25-x}, x \neq 25$	3											
	(c)	$\frac{1}{2}$	1											

11	(a)		${}^6P_6 \times {}^2P_2$ 1440	2	6
	(b)		$5! \times 2!$ atau $(6 - 1)! \times 2!$ 240	2	
	(c)		${}^6C_4 \times {}^4C_2 + {}^6C_5 \times {}^4C_2 + {}^6C_6 \times {}^4C_2$ 132	2	
12	(a)	(i)	$3x(x - 2)^2 + (x - 2)^3 (1)$ $2(2x - 1)(x - 2)^2$	3	6
	(ii)	titik lengkok balas			
	(b)		$\frac{dy}{dx} = 3 - 2x$ atau $\frac{d^2y}{dx^2} = -2$ $x(3 - x)(-2) + x(3 - 2x) + 12$ $12 - 3x$	3	
13	(a)		$-12 - 8m^2 < 0$	1	8
	(b)	(i)	-1	3	
		(ii)	$(-12)^2 - 4(-1)(h) = 0$ $h = -36$		
	(c)		$h_{tp} = -4$ dan $h_{dp} = -1$ $x^2 - (-4)x - 1 = 0$ $-2x^2 - 8x + 2 = 0$	3	
	(d)		Bertambah	1	

14	(a)	(i) (ii)	$\overrightarrow{LS} = \overrightarrow{LB} + \overrightarrow{BS}$ atau $\overrightarrow{PS} = \overrightarrow{PB} + \overrightarrow{BS}$ atau $\overrightarrow{BC} = \overrightarrow{BP} + \overrightarrow{PS}$ $4x + 10y$ $16x + 5y$	3	8
	(b)		$\overrightarrow{BT} = \lambda \overrightarrow{BC}$ atau $\overrightarrow{LT} = k \overrightarrow{LS}$ (guna $\overrightarrow{LT} + \overrightarrow{TB} = \overrightarrow{LB}$) $4k + 10ky + (-16\lambda x - 5\lambda y) = -12x$ $10k - 5\lambda = 0$ atau $4k - 16\lambda = -12$ $\lambda = \frac{6}{7}$ $BT : TC = 6 : 1$	5	
15	(a)		$110 = (3.142)j$ atau $110 = \pi j$ $j = 35$	2	8
	(b)	(i)	$118 \times \frac{3.142}{180}$ atau 2.060 rad atau 2.0598 rad $\frac{1}{2} \times 35^2 \times 2.06$ atau $\frac{1}{2} \times 35^2 \times \sin 118^\circ$ atau $\frac{1}{2} \times 35^2 \times \sin 2.06^r$ $\frac{1}{2} \times 35^2 \times [2.06 - \sin 118]$ $720.91 \sim 720.95$	6	
		(ii)	720.91 (200) $144182 \sim 144190$		