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MODUL PINTAS
TINGKATAN 5

3472/1

ADDITIONAL MATHEMATICS
Kertas 1

2 jam

Dua jam

PERATURAN PEMARKAHAN
ADDITIONAL MATHEMATICS K1
3472/1

1.	**(a)**	$1, 2$	**1 mark**
	(b)	$\{p, q, s\}$	**1 mark**
2.	**(a)**	$f(7) = 10$	**2 marks**
	(b)	$k = 2$ $gf(7) = k(10) - 1 = 19$	**B1** **1 mark**
3.		$p = -14$ $-\frac{12+p}{2} = 4\left(-\frac{1}{2}\right)^2$ $4\beta + \beta = -\frac{5}{2}\ dan\ 4\beta^2 = -\frac{12+p}{2}$ $x^2 + \frac{5}{2}x - \frac{12+p}{2} = 0$	**4 marks** **B3** **B2** **B1**
4.		$2x^2 - 3x - 5 \leq 0$ $(x+1)(2x-5) \leq 0$ $(x+1)\ and\ (2x-5)$ $-1 \leq x \leq \frac{5}{2}$	**4 marks** **B3** **B2** **B1**
5.		$p > 2\ dan\ p < -2$ $(p+2)(p-2) > 0$ $p^2 - 4(1)(1) > 0$	**3 marks** **B2** **B1**
6.		$x = -9$ $9 - 3x = -4x$ $\frac{9-3x}{2} = -2x$ $3^{\frac{9-3x}{2}} = 3^{-2x}$	**4 marks** **B3** **B2** **B1**
7.		$x = 4$ $log_3 x = log_3 4$	**3 marks** **B2**

	$\frac{log_3 x}{2} = log_3 2$	**B1**
8.	$b = \frac{1}{4}$	**2 marks**
	$b + 3 = -(3b - 4)$	**B1**
9.	$12y + 8x + 20 = 0$	**3 marks**
	$x^2 + y^2 - 8x + 16 = x^2 + y^2 + 12y + 36$	**B2**
	$\sqrt{(x-4)^2 + y^2} = \sqrt{x^2 + (y+6)^2}$	**B1**
10.	$h = 25 - 4k^2$	**3 marks**
	$4k^2 = 25 - h$	**B2**
	$2k = \sqrt{\frac{125}{5} - \left(\sqrt{h}\right)^2}$	**B1**
11.	**(a)** 113	**1 mark**
	(b) $\bar{x} = 10.63$	**2 marks**
	$\bar{x} = \frac{(3 \times 2) + (10 \times 5) + (25 \times 8) + (35 \times 11) \times + (40 \times 14)}{113}$	**B1**
12.	$Luas\ kawasan\ berlorek = 20.394\ cm^2$	**3 marks**
	$Luas = \frac{1}{2}(6)^2(1.133)$	**B2**
	$\theta = 1.133 rad$	**B1**
13.	**(a)** $p = 12$	**2 marks**
	$p(3) - 6 = 0$	**B1**
	(b) $y = x^2 - 6x + 10$	**2 marks**
	$y = 3^2 - 6(3) + c$	**B1**
14.	$n = 40\ and\ d = 4$	**3 marks**
	$\frac{n}{2}\left[18 + \left(\frac{165-9}{d}\right)(d)\right] = 3480$	**B2**
	$\frac{n}{2}[2(9) + (n-1)(d)] = 3480\ and\ n - 1 = \frac{165-9}{d}$	**B1**

15.	$d = 2$ $y = 11$ $8 - (5 - y) = -10y - 8$	**3 marks** **B2** **B1**
16.	$S_\infty = \frac{2}{55}$ $S_\infty = \frac{0.036}{1 - 0.01}$ $r = 0.01 \; and \; a \; 0.036$	**3 marks** **B2** **B1**
17.	$n = 2 \; and \; b = 1000$ $n = 2 \; or \; b = 1000$ $n = \frac{1 - 3}{6 - 0} \; or \log b = 3$	**3 marks** **B2** **B1**
18.	**(a)** -3	**1 mark**
	(b) 18 $[7(8) - 7(5)] - 3$ $[7x]_5^8 - 3$	**3 marks** **B2** **B1**
19.	**(a)** $\left\|\overrightarrow{OP}\right\| = \sqrt{26}$ **(b)** $\overrightarrow{OP} = 2a + b$	**1 mark** **1 mark**
20.	**(a)** $r + s = \begin{pmatrix} 4 + k \\ -3 \end{pmatrix}$	**1 mark**
	(b) $k = 5.5394$ $\sqrt{(4 + k)^2 + (-3)^2} = 10$	**2 marks** **B1**
21.	$\theta = 45^o, 116.57^o, 296.57^o, 315^o$ $\tan\theta = 1 \; and \; \tan\theta = -2$ $(tan\,\theta - 1)\,(tan\,\theta + 2\,) = 0$ $1 + tan^2\theta = 3 - tan\theta$	**4marks** **B3** **B2** **B1**

22.	**(a)**	40320 $^{8}P_{8}$	**2 marks** **B1**
	(b)	5 $^{3}C_{3} \times {}^{5}C_{1}$	**2 marks** **B1**
23.	**(a)**	$\frac{1}{56}$	**1 mark**
	(b)	$\frac{1}{48}$ $\left(\frac{1}{8} \times \frac{1}{12}\right) + \left(\frac{1}{12} \times \frac{1}{8}\right)$	**2 marks** **B1**
24.		$\sigma^2 = 50 \; and \; \sigma = 7.0711$ $\sigma^2 = 50 \; or \; \sigma = 7.0711$ $\sigma^2 = 50 \times \frac{1}{2} \times \frac{1}{2}$	**3 marks** **B2** **B1**
25.	**(a)**	0.8876 $\frac{5.7 - 4.2}{1.69}$	**2 marks** **B1**
	(b)	0.3128 $0.5 - 0.1872$	**2 marks** **B1**