

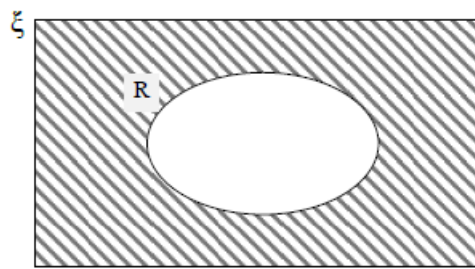
MATEMATIK KERTAS 1

No	Jawapan	No	Jawapan	No	Jawapan	No	Jawapan
1	A	11	C	21	D	31	D
2	A	12	A	22	C	32	D
3	A	13	A	23	B	33	A
4	C	14	D	24	D	34	D
5	C	15	B	25	D	35	B
6	D	16	B	26	D	36	C
7	D	17	D	27	C	37	D
8	A	18	A	28	C	38	C
9	B	19	B	29	C	39	C
10	D	20	B	30	A	40	B

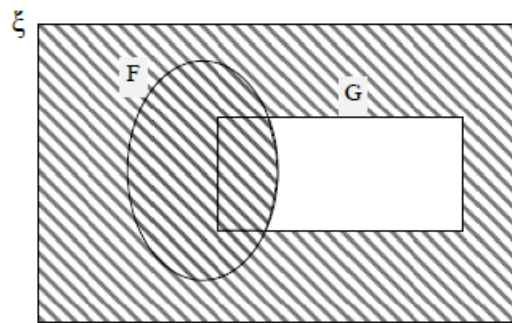
MATEMATIK KERTAS 2

1

(a)

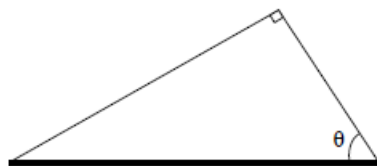


(b)



2

(a)



(b)

$$\begin{aligned} \tan \theta &= \frac{8}{6} \\ \theta &= 53.13^\circ @ 53^\circ 7' \end{aligned}$$

3

$$3x^2 - 2x - 8 = 0$$

$$(x - 2)(3x + 4) = 0$$

$$x = 4, \quad x = -\frac{4}{3}$$

4

$$\text{Baki isipadu} = \text{Isipadu Jag} - 5(\text{Isipadu Cawan})$$

$$= \left(\frac{22}{7} \times 6.5^3 \times 21 \right) - 5 \left(\frac{3}{4} \times \frac{1}{2} \left[\frac{4}{3} \times \frac{22}{7} \times 4^3 \right] \right)$$

$$= (2788.50) - (502.86)$$

$$= 2285.64 @ 2285 \frac{16}{25}$$

5

$$5p + 2q = 3p + 8q \quad \text{atau} \quad 2p = 6q \quad \text{atau setara}$$

$$12q - 2q = 852 \quad \text{atau setara}$$

$$6q = 852$$

$$q = 142$$

$$\therefore p = 426$$

6

(a) <

(b) Sudut pedalaman polygon ABCDEF ialah 120° (c) i) $2^n + 1$, $n = 1, 2, 3, 4, \dots$

$$\text{ii) } 2^n + 1 = 129$$

$$\therefore \text{Bilangan baris, } n = 7$$

7

$$(a) \quad m_{OR} = \frac{4}{3}$$

$$y = \frac{4}{3}x$$

(ii)

$$OP = OR = \sqrt{3^2 + 4^2} = 5$$

$$\text{Koordinat } P = (0, 5)$$

$$\therefore y = \frac{4}{3}x + 5$$

(iii)

$$\text{Koordinat } Q, (x, 0)$$

$$0 = \frac{4}{3}x + 5$$

$$\therefore Q\left(-\frac{15}{4}, 0\right)$$

8

 x – Kemeja T y – Seluar

$$52x + 52y = 1716$$

$$60x + 50y = 1800$$

$$\begin{pmatrix} 52 & 52 \\ 60 & 50 \end{pmatrix} \begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} 1716 \\ 1800 \end{pmatrix}$$

$$\begin{pmatrix} x \\ y \end{pmatrix} = -\frac{1}{520} \begin{pmatrix} 50 & -52 \\ -60 & 52 \end{pmatrix} \begin{pmatrix} 1716 \\ 1800 \end{pmatrix}$$

$$\begin{pmatrix} x \\ y \end{pmatrix} = \begin{pmatrix} 15 \\ 18 \end{pmatrix}$$

$$x = 15$$

$$y = 18$$

9

$$(a) \text{ Laju} = \frac{20-10}{\left(\frac{15}{60}\right)} = 40 \text{ kmj}^{-1}$$

$$(b) \text{ Tempoh} = \frac{135-15}{60} = 2 \text{ jam}$$

$$(c) -80 = \frac{0-20}{\left(\frac{k-135}{60}\right)}$$

$$\therefore k = 150$$

10

(a)

$$\begin{aligned}
 \text{Luas kaws. berlorek} &= \left(\frac{1}{2} \times \frac{22}{7} \times 10.5^2 \right) - \left(\frac{150}{360} \times \frac{22}{7} \times 7^2 \right) \\
 &= (173.25) - (64.167) \\
 &= 109.083
 \end{aligned}$$

(b)

$$\begin{aligned}
 \text{Perimeter kberlorek} &= \left(\frac{1}{2} \times 2 \times \frac{22}{7} \times 10.5 \right) + \left(\frac{150}{360} \times 2 \times \frac{22}{7} \times 7 \right) + 3(7) \\
 &= 33 + 18.33 + 21 \\
 &= 72.33 \quad \text{atau} \quad 72\frac{33}{100} \quad \text{atau} \quad \frac{7233}{100}
 \end{aligned}$$

11

(a) { (4,C), (4,O), (4,S), (4,T), (9,C), (9,O), (9,S), (9,T),
(16,C), (16,O), (16,S), (16,T) }

(b)i) { (4,O), (16,O) }

$$= \frac{2}{12} @ \frac{1}{6}$$

ii) { (4,S), (9,C), (9,O), (9,S), (9,T), (16,S) }

$$= \frac{6}{12} @ \frac{1}{2}$$

12

(a) $y = 9$
 $y = -6$

(b) Graf:

Paksi dilukis dalam arah yang betul dengan skala yang seragam.
 $-4 \leq x \leq 4$ dan $-4.5 \leq y \leq 4.5$.

Semua 7 titik ditanda dengan betul

Lengkung yang licin dan berterusan dalam julat
 $-4 \leq x \leq 4$ dengan tiada garis lurus dan melalui
semua 7 titik yang betul.

(c) (i) $-10.8 \leq y \leq -11.2$
(ii) $-1.6 \leq x \leq -1.4$

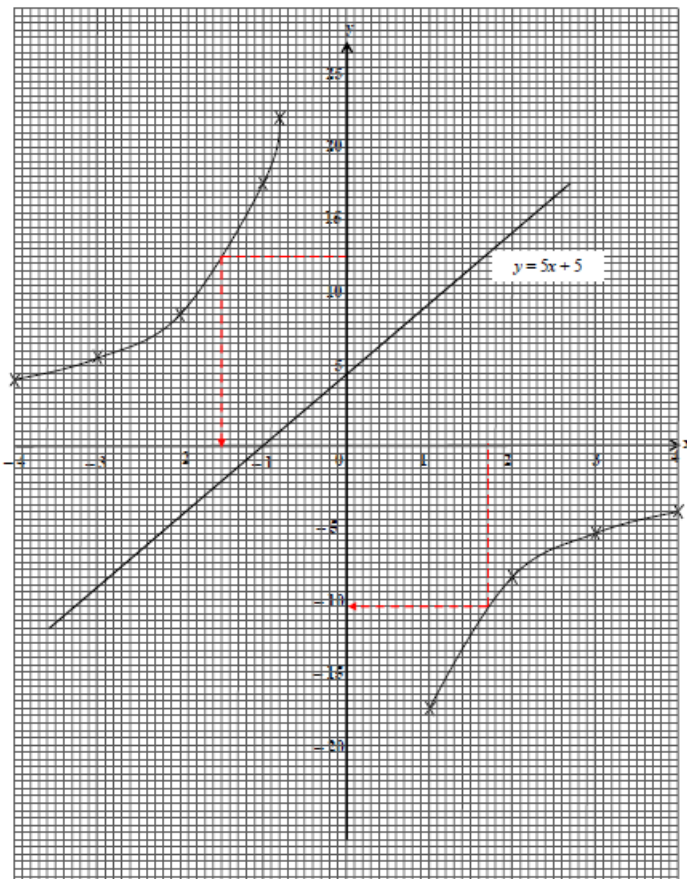
(d) Persamaan $y = 5x + 5$

Garis lurus dilukis dengan betul dan merentasi lengkung utama.

Nila-nilai x (terdapat masalah pada soalan ini)

12(b)

Graph for Question 12/Graf untuk Soalan 12



13

- (a) (i) $(3, 4) \longrightarrow (1, 7)$
 (ii) $(5, 5) \longrightarrow (3, 8)$

(b) (i) a) $V =$ Putaran 90° ikut arah jam pada pusat $P / (-2, 3)$

b) $W =$ Pembesaran dengan faktor skala $\frac{1}{2}$ pada pusat $(4, 5)$

$$\begin{aligned} \text{(ii) Luas } JKLMN &= \left(\frac{1}{2}\right)^2 \times 290 \\ &= 72.5 @ 72\frac{1}{2} \end{aligned}$$

14

(a)

Mark <i>Markah</i>	Frequency <i>Kekerapan</i>	Midpoint <i>Titik tengah</i>
65 – 69	2	67
70 – 74	4	72
75 – 79	7	77
80 – 84	13	82
85 – 89	16	87
90 – 94	4	92
95 – 99	2	97

(b)

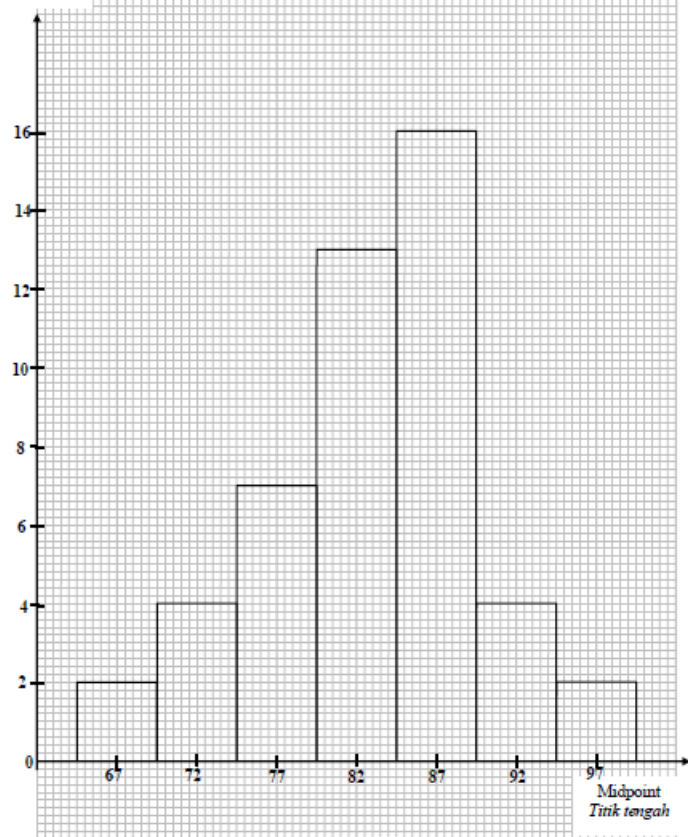
$$\begin{aligned} \text{Mim} &= \frac{2(67) + 4(72) + 7(77) + 13(82) + 16(87) + 4(92) + 2(97)}{2 + 4 + 7 + 13 + 16 + 4 + 2} \\ &= \frac{3981}{48} \\ &= 82.94 @ 1\frac{559}{768} \end{aligned}$$

(d) Rujuk Histogram

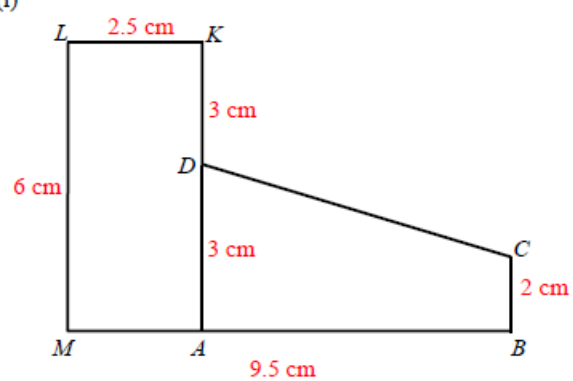
(e) Kelas mod = 85 – 89

Frequency
Kekerapan

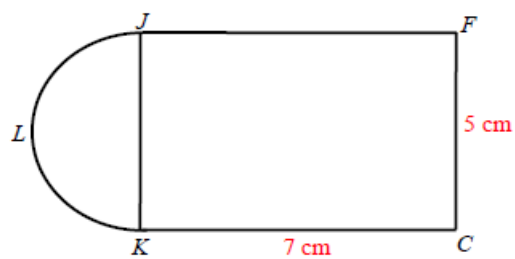
Graf untuk Soalan 14



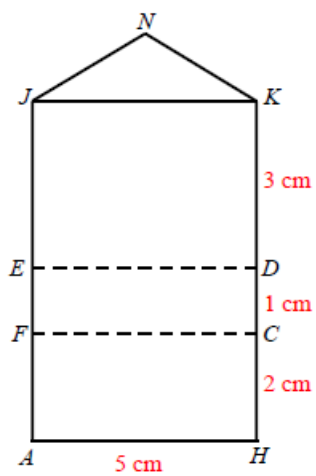
(a) (i)



(ii)



(b)



16

(a) Longitud R, 75°T

$$\begin{aligned}\text{(b) Jarak terpendek} &= (90 - 38) \times 60 \\ &= 3120 \text{ b.n.}\end{aligned}$$

$$\text{(c) } \frac{4680}{60} = 78^{\circ}$$

$$\therefore \text{Latitud V} = 78^{\circ} - 38^{\circ} = 40^{\circ}\text{S}$$

$$\text{(f) i) Jarak PQ} = (105^{\circ}\text{B} - 40^{\circ}\text{B}) \times 60' \times \text{Kos } 38^{\circ} = 3073.24 \text{ b.n.}$$

$$\text{ii) } \text{Masa} = \frac{4680 + 3073.24}{600} = 12.92 \text{ jam}$$