

Nama :

Tingkatan :

MODUL PERKEMBANGAN PEMBELAJARAN 3

(MPP 3)

TAHUN 2021

TINGKATAN 5

1449/2

Mathematics

Kertas 2

Nov

2021

$2\frac{1}{2}$ jam

Dua jam tiga puluh minit

JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIBERITAHU

1. Tuliskan **nama dan tingkatan** anda pada ruang yang disediakan.

2. Kertas peperiksaan ini adalah dalam dwibahasa.

3. Soalan dalam bahasa Melayu mendahului soalan yang sepadan dalam bahasa Inggeris.

4. Calon dibenarkan menjawab keseluruhan atau sebahagian soalan sama ada dalam bahasa Melayu atau Bahasa Inggeris.

Pemeriksa			
Bahagian	Soalan	Markah Penuh	Markah diperoleh
A	1	3	
	2	4	
	3	4	
	4	5	
	5	5	
	6	3	
	7	4	
	8	5	
	9	4	
	10	3	
B	11	9	
	12	9	
	13	9	
	14	9	
	15	9	
C	16	15	
	17	15	
Jumlah			

Kertas soalan ini mengandungi **36** halaman bercetak

RUMUS MATEMATIK
MATHEMATICAL FORMULAE

Rumus-rumus berikut boleh membantu anda menjawab soalan. Simbol-simbol yang diberi adalah yang biasa digunakan.

The following formulae may be helpful in answering the questions. The symbols given are the ones commonly used.

NOMBOR DAN OPERASI
NUMBERS AND OPERATIONS

- | | |
|---|---|
| 1 $a^m \times a^n = a^{m+n}$ | 2 $a^m \div a^n = a^{m-n}$ |
| 3 $(a^m)^n = a^{mn}$ | 4 $a^{\frac{m}{n}} = (a^{\frac{1}{n}})^m$ |
| 5 Faedah mudah / <i>Simple interest</i> , $I = Prt$ | |
| 6 Faedah kompaun / <i>Compound interest</i> , $MV = P \left(1 + \frac{r}{n} \right)^m$ | |
| 7 Jumlah bayaran balik / <i>Total repayment</i> , $A = P + Prt$ | |

PERKAITAN DAN ALGEBRA
RELATIONSHIP AND ALGEBRA

- 1 Jarak/ *Distance* = $\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$
- 2 Titik tengah/ *Midpoint*, $(x, y) = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$
- 3 Laju purata = $\frac{\text{Jumlah jarak}}{\text{Jumlah masa}}$
- Average speed* = $\frac{\text{Total distance}}{\text{Total time}}$
- 4 $m = \frac{y_2 - y_1}{x_2 - x_1}$
- 5 $m = -\frac{\text{pintasan} - y}{\text{pintasan} - x}$
- $m = -\frac{y - \text{intercept}}{x - \text{intercept}}$

SUKATAN DAN GEOMETRI
MEASUREMENT AND GEOMETRY

- 1 Teorem Pythagoras / *Pythagoras Theorem*, $c^2 = a^2 + b^2$
- 2 Hasil tambah sudut pedalaman poligon / *Sum of interior angles of a polygon*
 $= (n - 2) \times 180^\circ$
- 3 Lilitan bulatan = $\pi d = 2\pi j$
Circumference of circle = $\pi d = 2\pi r$
- 4 Luas bulatan = πj^2
Area of circle = πr^2
- 5
$$\frac{\text{Panjang lengkok}}{2\pi j} = \frac{\theta}{360^\circ}$$

$$\frac{\text{Arc length}}{2\pi r} = \frac{\theta}{360^\circ}$$
- 6
$$\frac{\text{luas sektor}}{\pi j^2} = \frac{\theta}{360^\circ}$$

$$\frac{\text{Area of sector}}{\pi r^2} = \frac{\theta}{360^\circ}$$
- 7 Luas layang = $\frac{1}{2} \times$ hasil darab panjang dua pepenjuru
Area of kite = $\frac{1}{2} \times$ *product of two diagonals*
- 8 Luas trapezium = $\frac{1}{2} \times$ hasil tambah dua sisi selari \times tinggi
Area of trapezium = $\frac{1}{2} \times$ *sum of two parallel sides* \times *height*
- 9 Luas permukaan silinder = $2\pi j^2 + 2\pi jt$
Surface area of cylinder = $2\pi r^2 + 2\pi rh$
- 10 Luas permukaan kon = $\pi j^2 + \pi js$
Surface area of cone = $\pi r^2 + \pi rs$
- 11 Luas permukaan sfera = $4\pi j^2$
Surface area of sphere = $4\pi r^2$
- 12 Isi padu prisma = luas keratan rentas \times tinggi
Volume of prism = *area of cross section* \times *height*
- 13 Isi padu silinder = $\pi j^2 t$
Volume of cylinder = $\pi r^2 h$

- 14 Isi padu kon = $\frac{1}{3}\pi j^2 t$
Volume of cone = $\frac{1}{3}\pi r^2 h$
- 15 Isi padu sfera = $\frac{4}{3}\pi j^3$
Volume of sphere = $\frac{4}{3}\pi r^3$
- 16 Isi padu piramid = $\frac{1}{3} \times \text{luas tapak} \times \text{tinggi}$
Volume of pyramid = $\frac{1}{3} \times \text{base area} \times \text{height}$
- 17 Faktor skala, $k = \frac{PA'}{PA}$
Scale factor, k = $\frac{PA'}{PA}$
- 18 Luas imej = $k^2 \times \text{luas objek}$
Area of image = $k^2 \times \text{area of object}$

STATISTIK DAN KEBARANGKALIAN
STATISTICS AND PROBABILITY

- 1 Min / Mean, $\bar{x} = \frac{\sum x}{N}$
- 2 Min / Mean, $\bar{x} = \frac{\sum fx}{\sum f}$
- 3 Varians / Variance, $\sigma^2 = \frac{\sum (x - \bar{x})^2}{N} = \frac{\sum x^2}{N} - \bar{x}^2$
- 4 Varians / Variance, $\sigma^2 = \frac{\sum f(x - \bar{x})^2}{\sum f} = \frac{\sum fx^2}{\sum f} - \bar{x}^2$
- 5 Sisihan piawai / Standard deviation, $\sigma = \sqrt{\frac{\sum (x - \bar{x})^2}{N}} = \sqrt{\frac{\sum x^2}{N} - \bar{x}^2}$
- 6 Sisihan piawai / Standard deviation, $\sigma = \sqrt{\frac{\sum f(x - \bar{x})^2}{\sum f}} = \sqrt{\frac{\sum fx^2}{\sum f} - \bar{x}^2}$
- 7 $P(A) = \frac{n(A)}{n(S)}$
- 8 $P(A') = 1 - P(A)$

Bahagian A
Section A

[40 markah]
[40 marks]

Jawab **semua** soalan dalam bahagian ini.
*Answer **all** questions in this section.*

- 1 (a) Rajah 1 di ruang jawapan menunjukkan gambar rajah Venn yang tidak lengkap. Bina set A dan set B dengan keadaan $A \cap B = \emptyset$.
*Diagram 1 in the answer space shows an incomplete Venn Diagram.
Construct set A and set B such that $A \cap B = \emptyset$.*

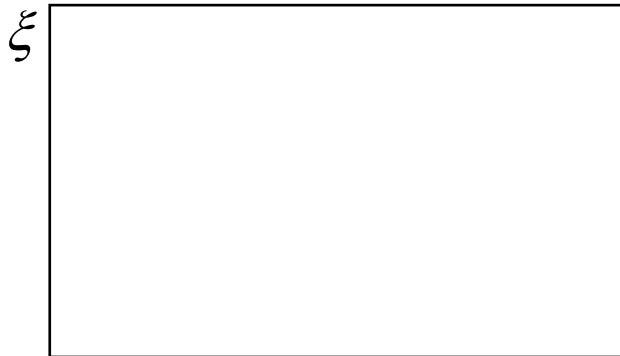
[1 markah / 1 mark]

- (b) Gambar rajah Venn di ruang jawapan menunjukkan set P , set Q dan set R dengan keadaan set semesta, $\xi = P \cup Q \cup R$.
Pada rajah di ruang jawapan, lorek set $(P' \cap Q) \cup R$.
*The Venn diagram in the answer space shows sets P , Q and R such that the universal set, $\xi = P \cup Q \cup R$.
On the diagram in the answer space, shade the set $(P' \cap Q) \cup R$.*

[2 markah / 2 marks]

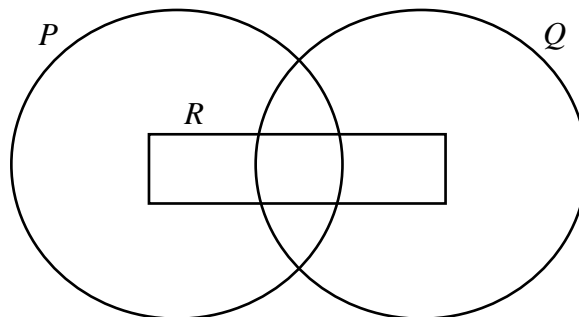
Jawapan / Answer :

(a)



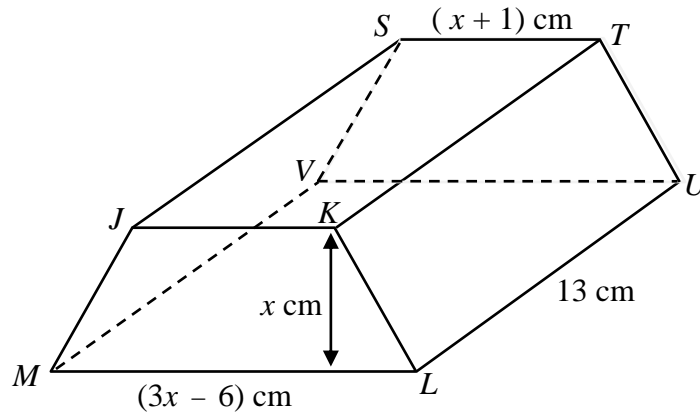
Rajah 1
Diagram 1

(b)



- 2 Rajah 2 menunjukkan sebuah prisma tegak. Trapezium $JKLM$ ialah keratan rentas seragam prisma itu.

Diagram 2 shows a right prism. The trapezium $JKLM$ is the uniform cross-section of the prism.

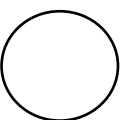


Rajah 2
Diagram 2

Diberi bahawa isipadu prisma tegak itu ialah 487.5 cm^3 . Hitung nilai x dalam cm.
Given that the volume of right prism is 487.5 cm^3 . Find the value of x in cm.

[4 markah / 4 marks]

Jawapan /Answer :



- 3 (a) Tulis **dua** implikasi berdasarkan pernyataan berikut :
Write down two implications based on the following statement :

5 ialah pintasan-y bagi garis lurus $y = mx + c$ jika dan hanya jika $c = 5$.
5 is the y-intercept of the straight line $y = mx + c$ if and only if $c = 5$.

- (b) Bina satu kesimpulan induktif bagi turutan nombor 3, 5, 11, 29 ...
yang mengikut pola berikut :

*Make one conclusion by inductive for the sequence of the numbers 3, 5, 11, 29 ...
which follows the following pattern :*

$$\begin{aligned} 3 &= 3^0 + 2 \\ 5 &= 3^1 + 2 \\ 11 &= 3^2 + 2 \\ 29 &= 3^3 + 2 \\ &\cdot \\ &\cdot \\ &\cdot \end{aligned}$$

[4 markah /4 marks]

Jawapan / Answer :

- (a) Implikasi 1 / Implication 1 :

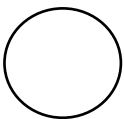
.....
.....

- Implikasi 2 / Implication 2 :

.....
.....

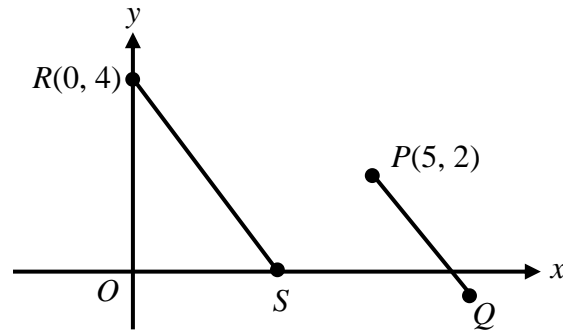
- (b) Kesimpulan / Conclusion :

.....
.....



- 4 Rajah 3 di bawah menunjukkan garis lurus PQ dan garis lurus RS dilukis pada suatu satah Cartes. PQ adalah selari dengan RS dan jarak RS ialah 5 unit.

Diagram 3 below shows the PQ straight line and the RS straight line drawn on a Cartesian plane. PQ is parallel to RS and the distance RS is 5 units.



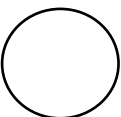
Rajah 3
Diagram 3

Nyatakan koordinat S dan seterusnya cari persamaan garis lurus PQ .

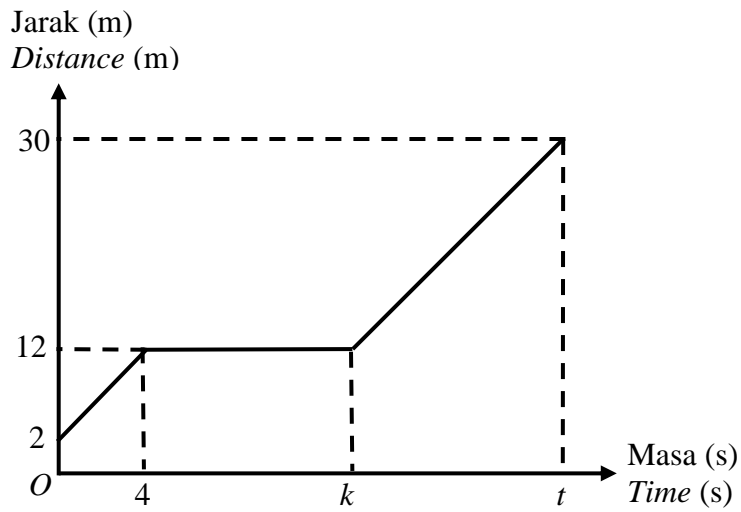
State the coordinates of S and hence find the equation of the straight line PQ .

[5 markah / 5 marks]

Jawapan / Answer :



- 5 Rajah 4 menunjukkan graf jarak-masa bagi pergerakan suatu zarah dalam tempoh masa t saat.
Diagram 4 shows the distance-time graph for the movement of a particle for a period of t seconds.

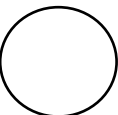


Rajah 4
Diagram 4

- (a) Diberi bahawa tempoh masa zarah itu berhenti ialah 5 s, cari nilai k .
Given that the duration of time the particle is stationary is 5 s, find the value of k .
- (b) Hitung laju dalam ms^{-1} , zarah itu pada 4 saat pertama.
Calculate the speed, in ms^{-1} , of the particle in the first 4 seconds
- (c) Diberi laju purata zarah itu bagi keseluruhan pergerakan ialah 1.4 ms^{-1} .
Cari nilai t .
Given that the average speed of the particle for the whole journey is 1.4 ms^{-1} find the value of t .

[5 markah / 5 marks]

Jawapan / *Answer* :

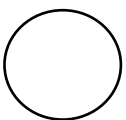
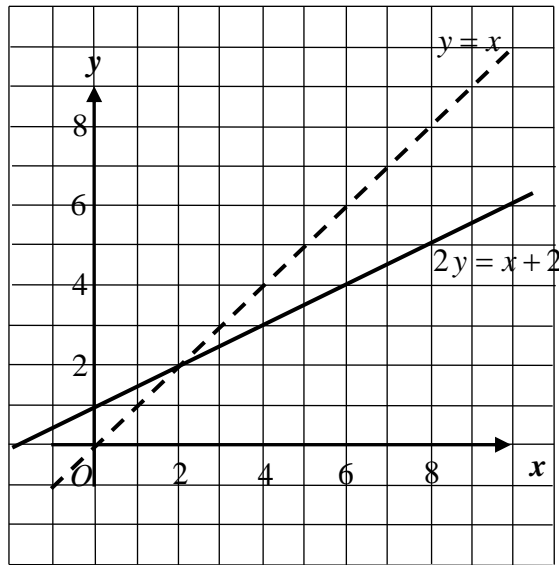


- 6 Pada graf di ruang jawapan, lorek rantau yang memuaskan ketiga-tiga ketaksamaan $2y \geq x + 2$, $y < x$ dan $x \leq 8$

On the graph in the answer space, shade the region which satisfies the three inequalities of $2y \geq x + 2$, $y < x$ and $x \leq 8$

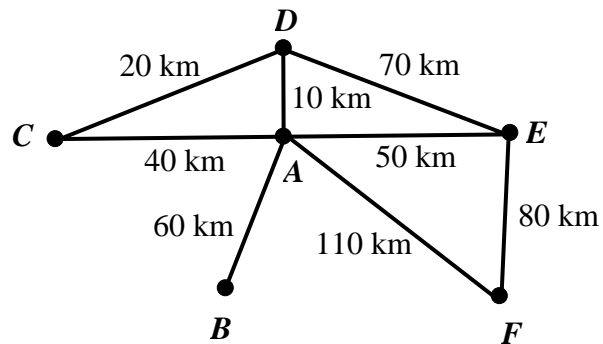
[3 markah / 3 marks]

Jawapan / Answer:



7 Rajah 5 menunjukkan graf tak terarah mewakili jarak bagi enam buah bandar.

Diagram 5 shows the undirected graph represented the distance of six places.



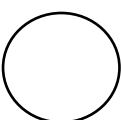
Rajah 5
Diagram 5

Lukis dua subgraf bagi graf itu dan seterusnya, hitung masa dari *D* ke *F* jika laju purata dengan jarak terpendek ialah 80 km/j.

Draw two subgraphs of the graph and hence, find the time from D to F if the average speed with the shortest distance is 80 km/h.

[4 markah / 4 marks]

Jawapan / Answer :



- 8 Jadual 1 menunjukkan promosi jualan oleh Nurseri Aminah.
Table 1 shows promotion offered by Aminah Nursery.

Promosi / Promotion	Harga / Price
A 2 pokok bunga ros / <i>rose trees</i> 2 pokok keladi / <i>yam trees</i>	RM140
B 5 pokok bunga ros / <i>rose trees</i> 1 pokok keladi / <i>yam trees</i>	RM 150

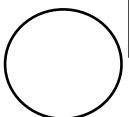
Jadual 1
Table 1

Dengan menggunakan kaedah matriks, hitung harga bagi satu pokok bunga ros dan satu pokok keladi.

Using the matrix method, calculate the price for a rose tree and a yam tree.

[5 markah / 5 marks]

Jawapan / *Answer* :



9 Jadual 2 menunjukkan satu set data.

30, 26, 21, 25, 22, 38, 39, 27, 28, 32, 44, 46, 34, 36, 40, 42
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Table 2 shows a set of data.

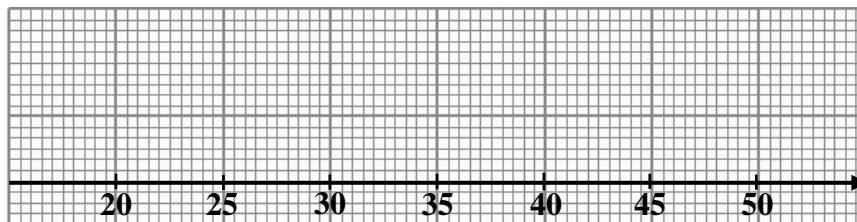
Jadual 2
Table 2

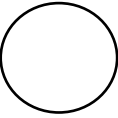
Berdasarkan data, bina satu plot kotak di ruangan jawapan dan seterusnya hitung julat antara kuartil bagi set data tersebut.

Based on the data, construct a box plot in the answer space given and hence find the interquartile range of the set.

[4 markah / 4 marks]

Jawapan / Answer :



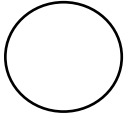


- 10** Arus elektrik, I (Ampere) berubah secara langsung dengan kuasa, P (Watt) dan secara songsang dengan voltan, V (Volt) bagi suatu peralatan elektrik. Diberi bahawa sebuah penghawa dingin dengan kuasa 2000 W dan voltan 240 V menggunakan arus elektrik 20 A. Hitung arus elektrik yang digunakan oleh pembesar suara dengan kuasa 100 W dan voltan 240 V.

The electric current, I (Ampere) varies directly as the power, P (Watt) and inversely as the voltage, V (Volt) of an electrical appliance. It is given that an air conditioner with 2000 W of power and 240 V of voltage uses an electric current of 20 A. Calculate the electric current used by the speakers with 100 W of power and 240 V of voltage.

[3 markah / 3 marks]

Jawapan / Answer :



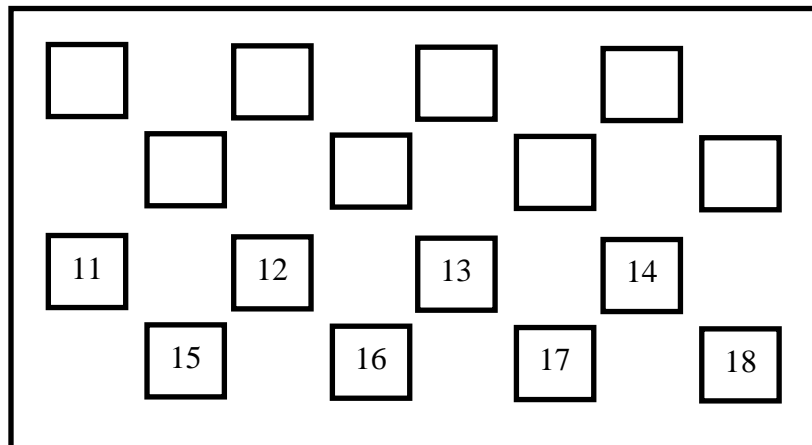
Bahagian B
Section B

[45 markah]

[45 marks]

- 11 Rajah 6 menunjukkan susunan tempat duduk dalam sebuah dewan yang dijarakkan supaya mematuhi SOP Covid-19. Terdapat hanya 8 tempat duduk yang masih kosong, iaitu tempat duduk 11, 12, 13, 14, 15, 16, 17 dan 18.

Diagram 6 shows a social distance seating arrangement in an auditorium to comply Covid-19 SOP. There are only 8 empty seats, which are seat number 11, 12, 13, 14, 15, 16, 17 and 18.



Rajah 6
Diagram 6

- A ialah peristiwa mendapat satu nombor yang lebih besar daripada 15
B ialah peristiwa mendapat satu nombor perdana
C ialah peristiwa mendapat satu nombor gandaan 5

*A is the event of getting a number greater than 15
B is the event of getting a prime number
C is the event of getting a multiple of 5*

- (a) Tentukan sama ada pasangan peristiwa berikut ialah peristiwa saling eksklusif atau peristiwa tidak saling eksklusif.

Determine whether the following pairs of events are mutually exclusive events or non-mutually exclusive events.

- (i) A dan B / A and B
(ii) B dan C / B and C

(b) Dengan menyenaraikan semua kesudahan yang mungkin, cari kebarangkalian mendapat peristiwa A dan B .

By listing all possible outcomes, find the probability of getting the events A and B

(c) Tentulah rumus penambahan kebarangkalian bagi peristiwa bergabung berikut dengan menyenaraikan semua kesudahan yang mungkin.

Verify the addition rule of probability for the following combined events by listing all the possible outcomes.

$P(A \text{ atau } B)$ $P(A \text{ or } B)$
--

[9 markah / 9 marks]

Jawapan / Answer :

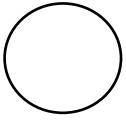
(a) (i)

(ii)

(i)

(b)

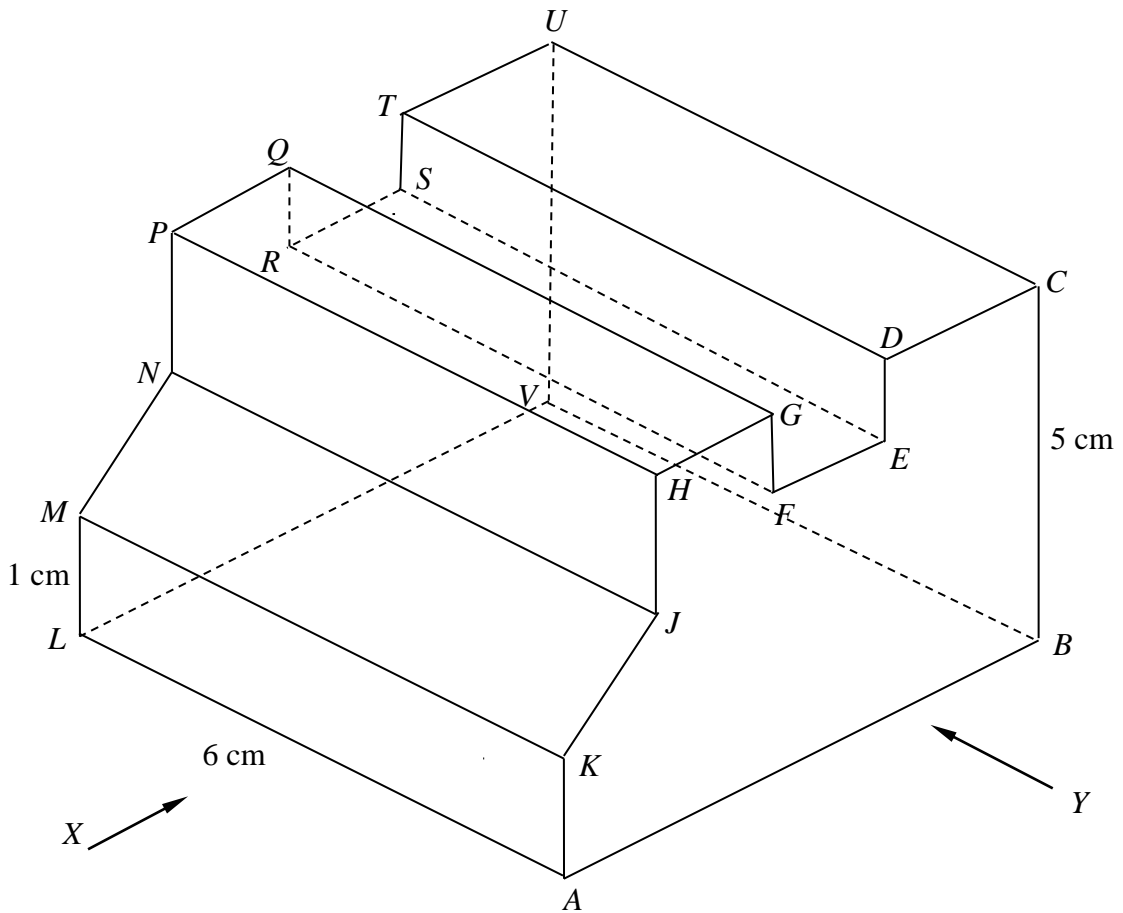
(c)



- 12 Anda **tidak** dibenarkan menggunakan kertas graf untuk menjawab soalan ini.
*You are **not** allowed to use graph paper to answer this question.*

Rajah 7 menunjukkan sebuah pepejal berbentuk prisma tegak. $ABCDEFGHJK$ ialah keratan rentas seragam prisma tegak itu. Tapak $ABVL$ ialah sebuah segi empat sama yang terletak pada satah mengufuk. Segi empat $MKJN$ ialah satah condong. Diberi bahawa $ML = DE = EF = FG = GH$ dan $NP = TU = 2$ cm.

Diagram 7 shows a solid right prism. $ABCDEFGHJK$ is the uniform cross section of the right prism. The base $ABVL$ is a square on a horizontal plane. Rectangle $MKJN$ is an inclined plane. Given that $ML = DE = EF = FG = GH$ and $NP = TU = 2$ cm.



Rajah 7
Diagram 7

Pada ruang jawapan, lukis dengan skala penuh,

On the answer space, draw to full scale,

- (a) dongakan pepejal itu pada satah mencancang yang selari dengan LA sebagaimana dilihat dari X ,
the elevation of the solid on a vertical plane parallel to LA as viewed from X ,

[5 markah / 5 marks]

- (b) dongakan pepejal itu pada satah mencancang yang selari dengan AB sebagaimana dilihat dari Y .
the elevation of the solid on a vertical plane parallel to AB as viewed from Y .

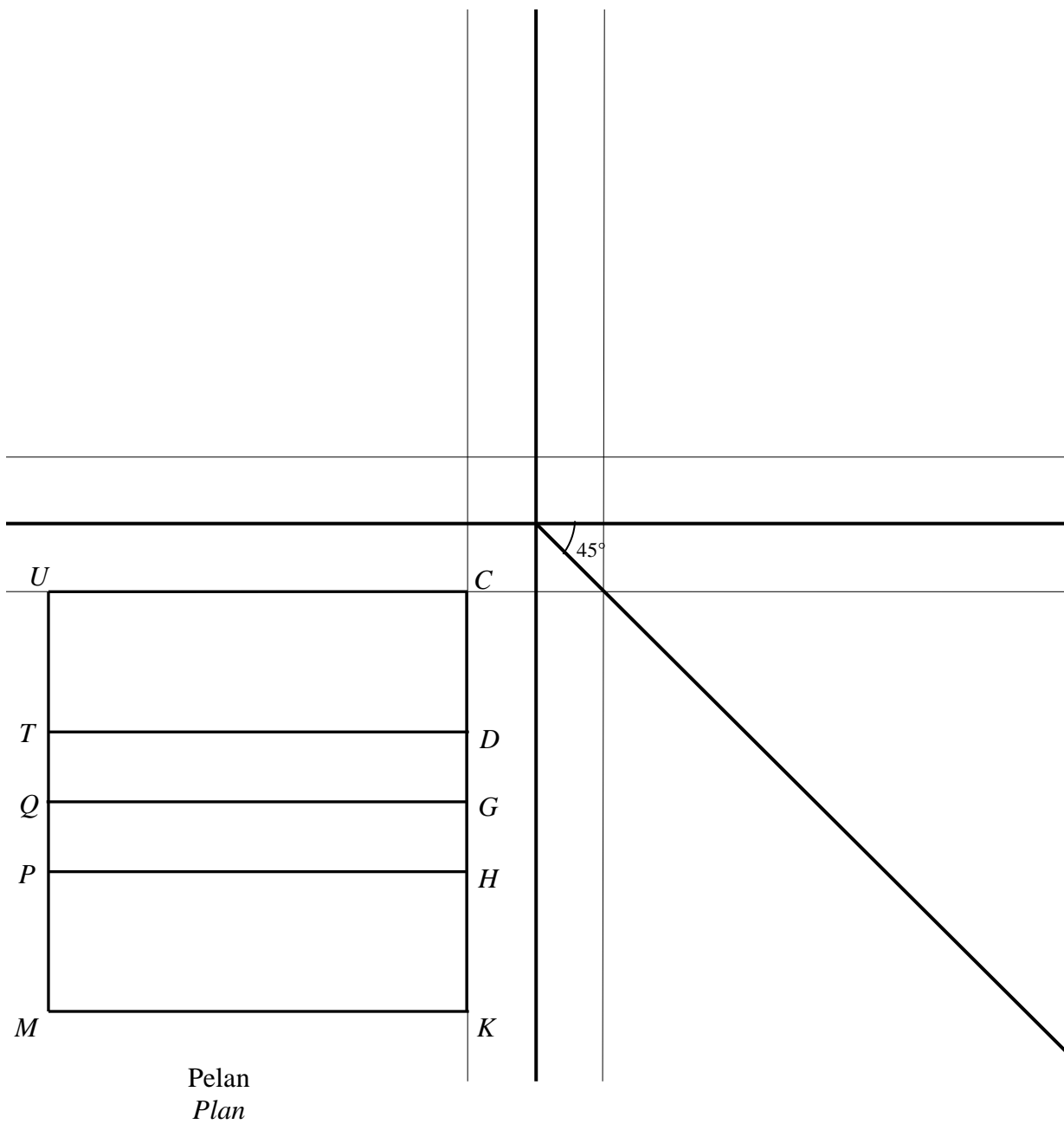
[4 markah / 4 marks]

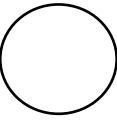
Jawapan / Answer :

(a), (b)

Dongakan arah *X*
Elevation from *X*

Dongakan arah *Y*
Elevation from *Y*





- 13 (a) Jadual 3 di ruang jawapan menunjukkan nilai-nilai x dan y bagi persamaan $y = 2x^2 + 3x - 11$. Cari nilai bagi p dan q .

Table 3 in the answer space shows the values of x and of y for the equation $y = 2x^2 + 3x - 11$. Find the value of p and of q .

[2 markah / 2 marks]

- (b) Untuk ceraian soalan ini, gunakan kertas graf yang disediakan pada halaman 23. Anda boleh menggunakan pembaris fleksibel.

For this part of the question, use the graph paper provided on page 23. You may use a flexible curve rule.

Dengan menggunakan skala 2 cm kepada 1 unit pada paksi- x dan 2 cm kepada 5 unit pada paksi- y , lukis graf $y = 2x^2 + 3x - 11$ untuk $-4 \leq x \leq 3$.

By using a scale of 2 cm to 1 unit on the x -axis and 2 cm to 5 units on the y -axis, draw the graph of $y = 2x^2 + 3x - 11$ for $-4 \leq x \leq 3$.

[4 markah / 4 marks]

- (c) Daripada graf di 13(b), cari

From the graph in 13(b), find

- (i) nilai y apabila $x = -1.5$

the value of y when $x = -1.5$

- (ii) nilai-nilai x apabila $2x^2 + 3x - 11 = 0$

the values of x when $2x^2 + 3x - 11 = 0$

[3 markah / 3 marks]

Jawapan / Answer :

13 (a) $y = 2x^2 + 3x - 11$

x	-4	-3	-2	-1	0	1	2	2.5	3
y	9	p	-9	-12	-11	q	3	9	16

Jadual 3
Table 3

$p = \dots\dots\dots$

$q = \dots\dots\dots$

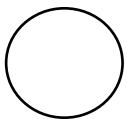
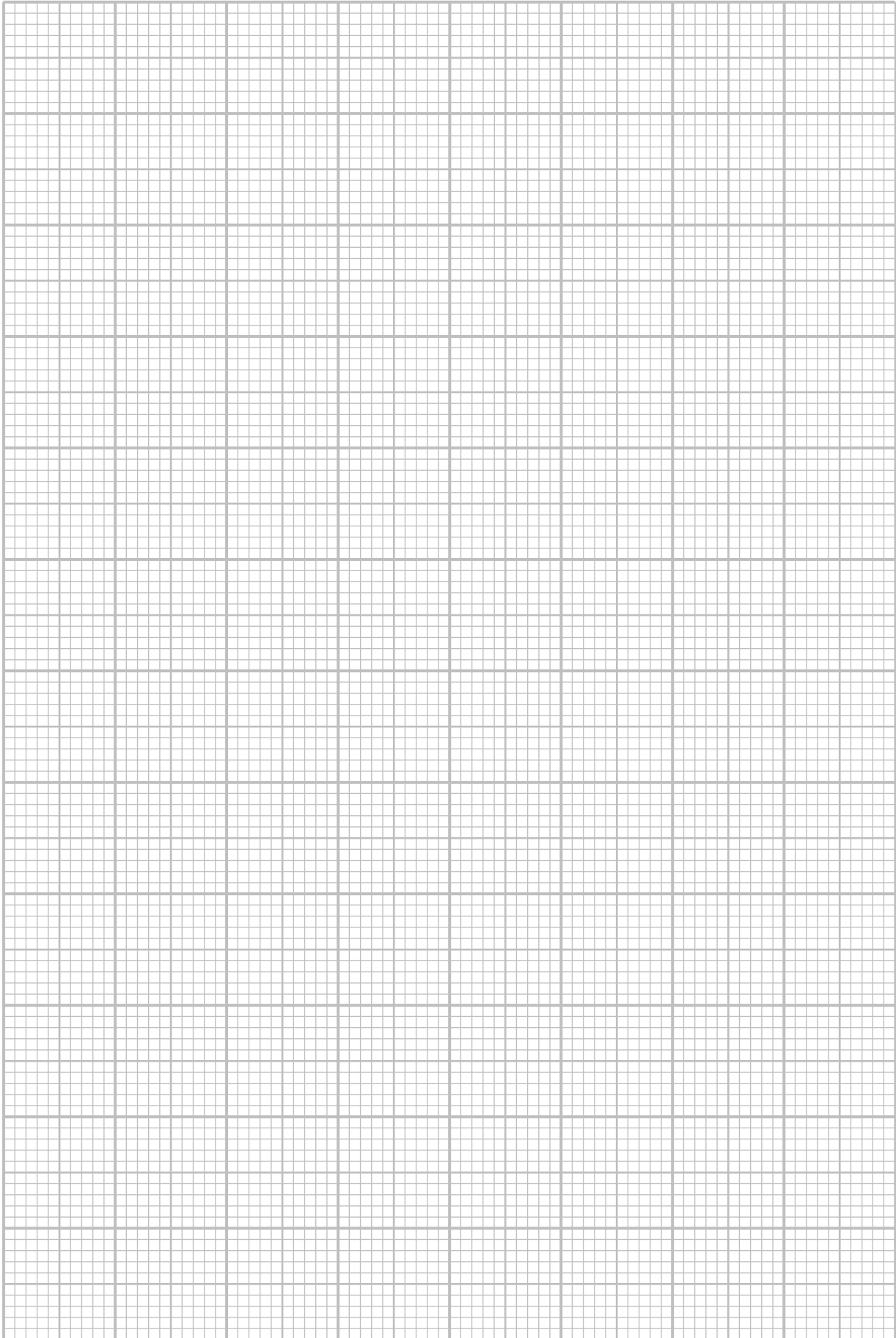
(b) Rujuk graf di halaman 23

Refer graph on page 23

(c) (i)

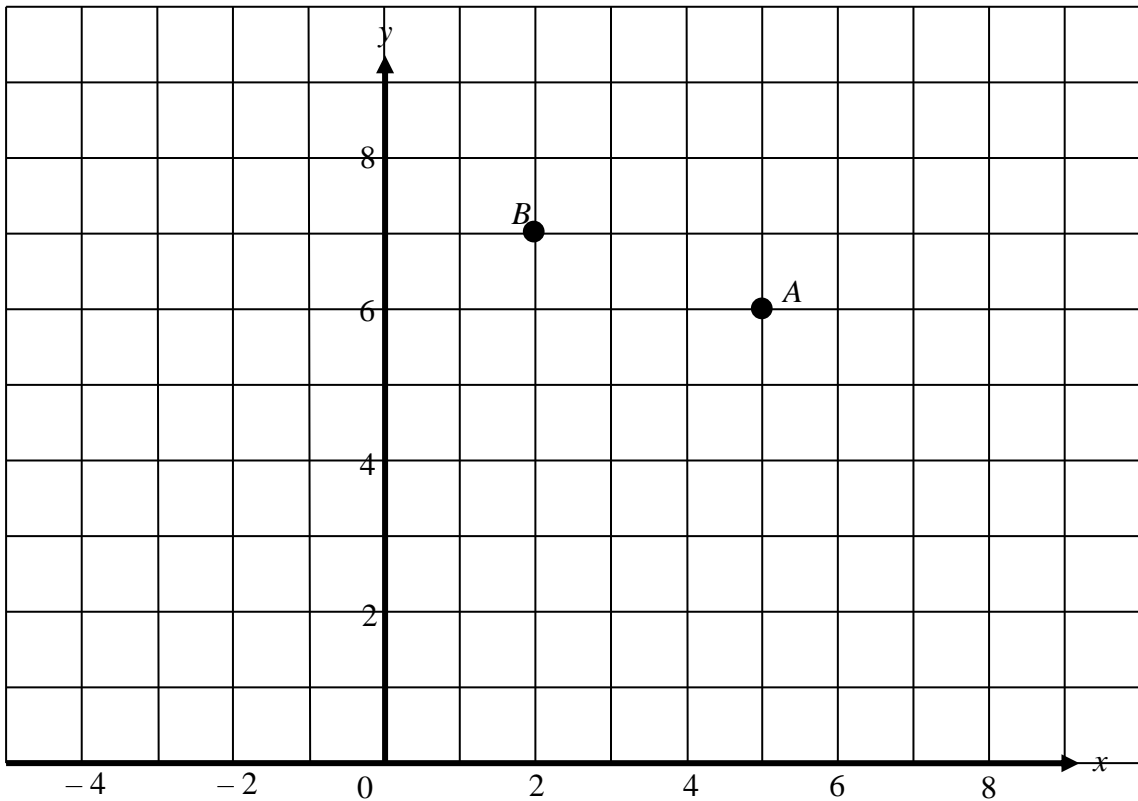
(ii),

Graf untuk Soalan 13
Graph for Question 13



14 Rajah 8.1 menunjukkan titik A dan titik B , dilukis pada suatu satah Cartes.

Diagram 8.1 shows the points, A and B , drawn on a Cartesian plane.



Rajah 8.1
Diagram 8.1

(a) Transformasi \mathbf{T} ialah satu translasi $\begin{pmatrix} 1 \\ -3 \end{pmatrix}$

Transformasi \mathbf{R} ialah satu putaran 90° ikut arah jam pada pusat B .

Transformation \mathbf{T} is a translation $\begin{pmatrix} 1 \\ -3 \end{pmatrix}$

Transformation \mathbf{R} is a clockwise rotation of 90° about the centre B .

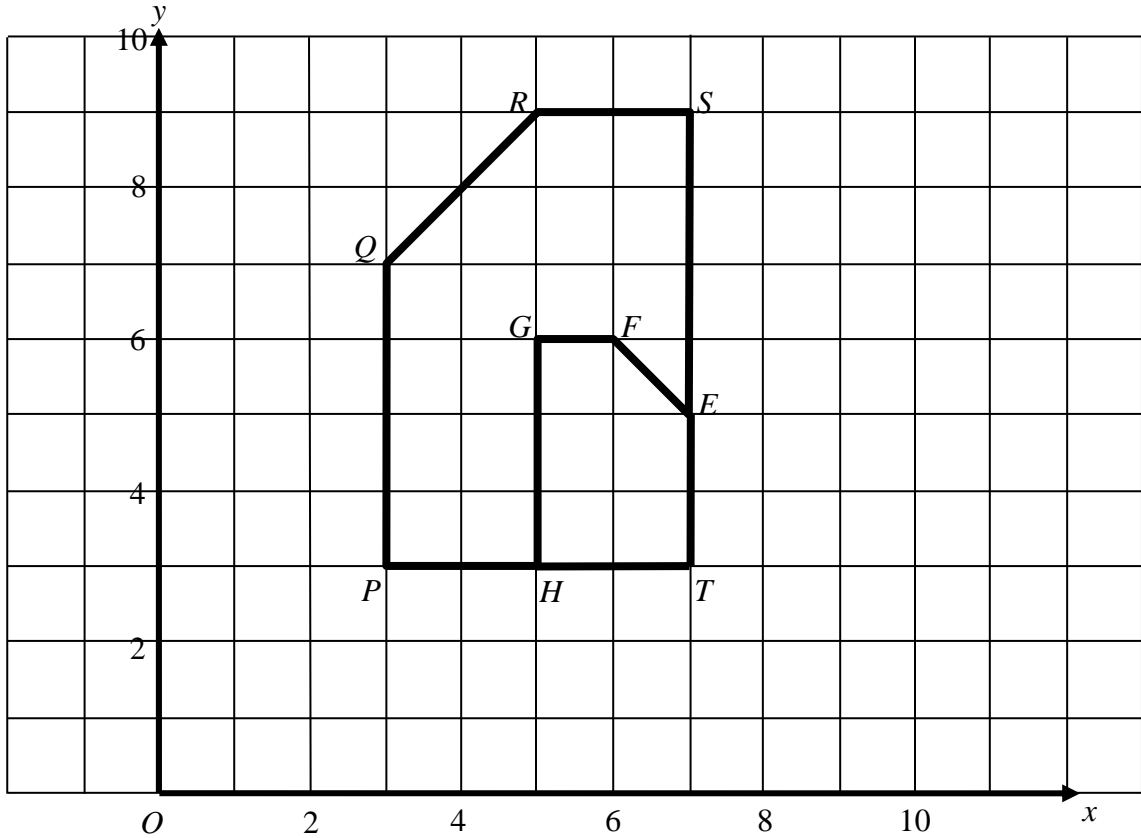
Nyatakan koordinat imej bagi titik A di bawah transformasi \mathbf{RT} .

State the coordinates of the image of point A under the transformations \mathbf{RT} .

[2 markah / 2 marks]

- (b) Rajah 8.2 di bawah menunjukkan dua buah pentagon, $PQRST$ dan $EFGHT$ dilukis pada suatu satah Cartes.

Diagram 8.2 shows two pentagons, $PQRST$ and $EFGHT$, drawn on a Cartesian plane.



Rajah 8.2
Diagram 8.2

$PQRST$ ialah imej bagi $EFGHT$ di bawah gabungan transformasi WV .

Huraikan selengkapnya transformasi :

$PQRST$ is the image of $EFGHT$ under the combined transformation WV .

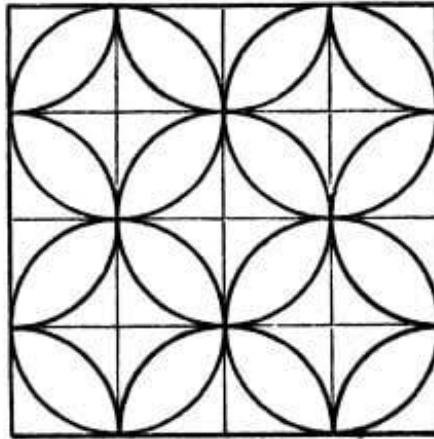
Describe in full, the transformation :

- (i) V ,
- (ii) W .

[5 markah / 5 marks]

- (c) Tentukan sama ada Rajah 8.3 merupakan suatu teselasi atau bukan. Berikan justifikasi.

Determine whether the Diagram 8.3 is a tessellation or not. Give your justification.



Rajah 8.3
Diagram 8.3

[2 markah / 2 marks]

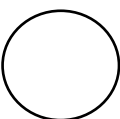
Jawapan / Answer :

(a)

(b) (i) **V** :

(ii) **W** :

(c)



- 15 Jadual 4 menunjukkan kekerapan longgokan bagi markah ujian Matematik kelas 5 Cekal.

Table 4 shows the cumulative frequency of the Mathematics test mark for 5 Cekal.

- (a) Lengkapkan Jadual 4 di ruang jawapan.

Complete Table 4 in the answer space.

[1 markah / 1 mark]

- (b) Untuk ceraian soalan ini, gunakan kertas graf yang disediakan di halaman 29. Dengan menggunakan skala 2 cm kepada 10 markah pada paksi mengufuk dan 2 cm kepada 2 murid pada paksi mencancang, lukis satu histogram longgokan bagi data tersebut.

For this part of the question, use the graph paper provided on page 29. By using a scale of 2 cm to 10 marks on the horizontal axis and 2 cm to 2 pupils on the vertical axis, draw a cumulative histogram for the data.

[4 markah / 4 marks]

- (c) Lukis ogif pada graf yang sama di (b)

Draw an ogive on the same graph in (b)

[2 markah / 2 marks]

- (d) Berdasarkan ogif tersebut, cari persentil ke-20, P_{20}

Based on the ogive, find the 20th percentile, P_{20}

[2 markah / 2 marks]

Jawapan / Answer :

(a)

Markah <i>Marks</i>	Kekerapan <i>frequency</i>	Kekerapan Longgokan <i>Cumulative frequency</i>	Sempadan atas <i>Upper boundary</i>
30 - 39	0	0	
40 - 49	2	2	
50 - 59	3	5	
60 - 69	3	8	
70 - 79	4	12	
80 - 89	5	17	
90 - 99	1	18	

Jadual 4

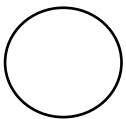
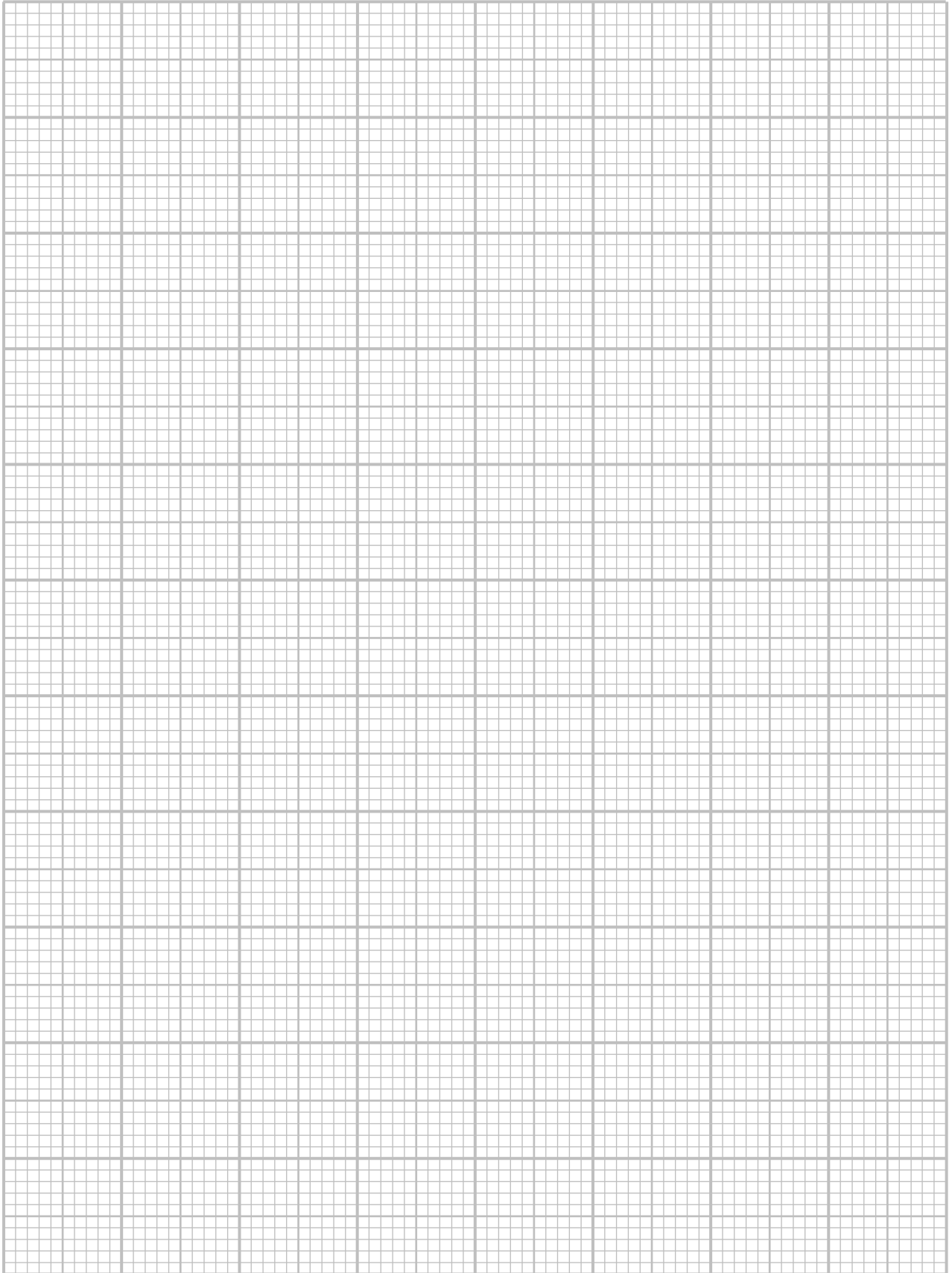
Table 4

(b) Rujuk graf di halaman **29**
Refer to graph on page 29

(c) Rujuk graf di halaman **29**
Refer to graph on page 29

(d)

Graph for Question 15
Graf untuk Soalan 15



Bahagian C
Section C
[15 markah]
[15 marks]

Jawab **satu** soalan daripada bahagian ini.
*Answer **one** question from this section.*

- 16** Encik Farhan bekerja sebagai pegawai bank di RNB Bank dan menerima gaji sebanyak RM5 180 sebulan. Isteri beliau merupakan seorang suri rumah dan mereka mempunyai seorang anak bernama Fatin, berumur 21 tahun yang sedang belajar di Universiti Sains Malaysia. Beliau membuat potongan cukai bulanan (PCB) sebanyak RM144.40 sebulan.

Mr Farhan works as a bank officer at RNB Bank and received a salary of RM5 180 per month. His wife is a housewife and they have 21 years old daughter named Fatin, who is studying at Universiti Sains Malaysia. He made monthly tax deduction (PCB) for RM144.40 per month.

Jadual 5 menunjukkan pelepasan cukai yang dituntut oleh Encik Farhan.
Table 5 shows the tax relief claimed by Mr. Farhan

Individu/ <i>Individual</i>	RM9 000
Ibu dan bapa/ <i>Parents</i> (Terhad/ <i>limited</i> RM3 000)	RM4 800
Gaya Hidup/ <i>Lifestyle</i> (Terhad/ <i>limited</i> RM2 500)	RM3 850
Isteri/ <i>wife</i> (Terhad/ <i>limited</i> RM4 000)	RM4 800
Anak/ <i>Child</i> (Terhad/ <i>limited</i> RM8 000)	RM3 600
Insuran hayat dan KWSP/ <i>Life insurance and EPF</i> (Terhad/ <i>limited</i> RM7 000)	RM2 400

Jadual 5
Table 5

Jadual Kadar Cukai Pendapatan Individu Taksiran 2020
Table of Individual Income Tax Rates of Assessment 2020

Banjaran Pendapatan Bercukai <i>Chargeable Income</i> (RM)	Pengiraan <i>Calculations</i> (RM)	Kadar <i>Rate</i> (%)	Cukai <i>Tax</i> (RM)
0 – 5 000	5 000 pertama/ <i>First</i> 5 000	0	0
5 001 – 20 000	5 000 pertama/ <i>First</i> 5 000 15 000 berikutnya/ <i>Next</i> 15 000	1	150
20 001 – 35 000	20 000 pertama/ <i>First</i> 20 000 15 000 berikutnya/ <i>Next</i> 15 000	3	450
35 001 – 50 000	35 000 pertama/ <i>First</i> 35 000 15 000 berikutnya/ <i>Next</i> 15 000	8	1 200
50 001 – 70 000	50 000 pertama/ <i>First</i> 50 000 20 000 berikutnya/ <i>Next</i> 20 000	14	2 800
70 001 – 100 000	70 000 pertama/ <i>First</i> 70 000 30 000 berikutnya/ <i>Next</i> 30 000	21	6 300

- (a) Dengan merujuk kepada Jadual Pelepasan Cukai Individu dan Kadar Cukai Pendapatan Individu Taksiran 2020.

By referring to Table of Tax Reliefs for Individual and Table of Individual Income Tax Rates of Assessment 2020.

- (i) Hitung cukai pendapatan Encik Farhan bagi tahun taksiran 2020
Calculate Mr. Farhan's income tax for the year assessment of 2020
- (ii) Adakah Encik Farhan layak menerima rebat.
Is Mr. Farhan eligible to receive a rebate.
- (iii) Berdasarkan potongan cukai bulanan yang dibuatnya, adakah Encik Farhan perlu menambah pembayaran cukai atau sebaliknya. Berikan justifikasi anda.
Based on the monthly tax deductions he made, is Mr. Farhan need to add tax payments or vice versa. Give your justification.

[8 markah / 8 marks]

- (b) Fatim ingin membeli sebuah komputer yang berharga RM2 500 dalam masa lapan bulan. Dia bekerja sambil dan memperoleh pendapatan sebanyak RM320 sebulan. Tentukan sama ada matlamat kewangan Fatim boleh dicapai atau tidak.

Fatim wants to buy a computer costs RM2 500 in eight months. She works as a part-timer and earned an income of RM320 per month. Determine whether Fatim's financial goals can be achieved or not.

[2 markah / 2 marks]

- (c) Encik Farhan membeli polisi insurans perubatan dengan peruntukan deduktibel sebanyak RM600 dan fasal penyertaan peratusan ko-insurans 75/25. Kos perubatan yang dilindungi dalam polisi Encik Farhan ialah RM20 000.

Mr Farhan bought a medical insurance policy with a deductible provision of RM600 and co-insurance percentage participation of 75/25. The medical costs covered in Mr Farhan's policy is RM20 000.

Hitung jumlah kos yang ditanggung oleh syarikat insurans dan jumlah kos yang ditanggung oleh Encik Farhan.

Calculate the amount of cost incurred by insurance company and the amount of cost borne by Mr Farhan.

[5 markah / 5 marks]

Jawapan/ Answer :

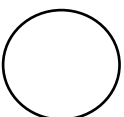
(a)(i)

(ii)

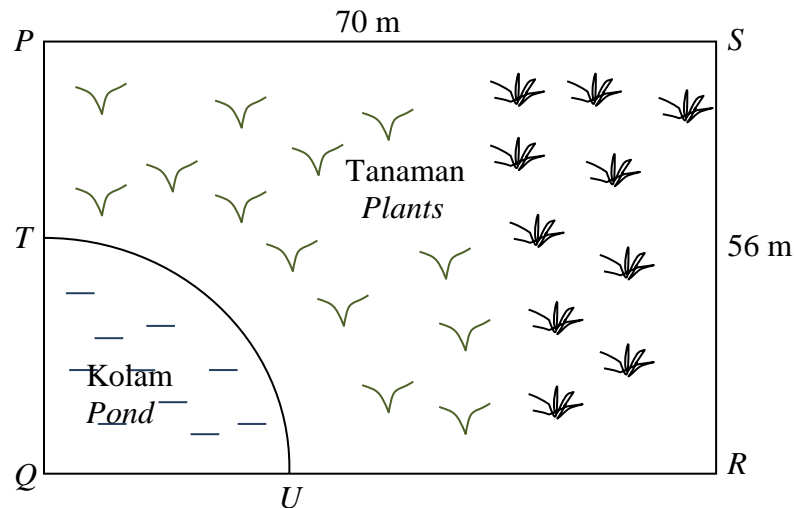
(iii)

(b)

(c)



- 17 Rajah 9 menunjukkan kebun Encik Yazid berbentuk segi empat tepat $PQRS$. Di dalam kebunnya terdapat tanaman pokok pisang dan cili serta kolam berbentuk sukuan bulatan berpusat di Q .
Diagram 9 shows Mr. Yazid's garden in the shape of a rectangle $PQRS$. In his orchard there are banana and chilli plants and also a quadrant of a circle pond centre Q .



Rajah 9
Diagram 9

Diberi bahawa T ialah titik tengah bagi PQ .
It is given T is the midpoint of PQ .

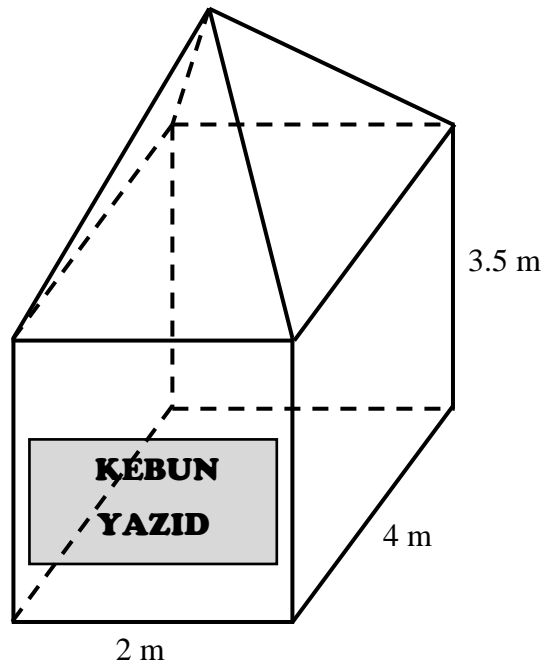
Menggunakan / Using $\pi = \frac{22}{7}$

- (a) (i) Hitung luas, dalam m^2 , kawasan yang ditanam pokok pisang dan pokok cili.
Calculate the area, in m^2 , of the area planted with banana and chilli plants.
- (ii) Encik Yazid ingin membina pagar untuk keselamatan tanamannya.
Hitung panjang pagar dalam m, yang perlu dibina.
Mr. Yazid wants to build a fence to keep his plants safe.
Calculate the length of the fence in m, needs to build.

[6 markah / 6 marks]

- (b) Rajah 10 menunjukkan mercu tanda terdiri daripada gabungan kuboid dan piramid tegak yang ingin dibina oleh Encik Yazid.

Diagram 10 shows a landmark consisting of a combination of cuboid and right pyramid that Mr. Yazid wanted to build.



Rajah 10
Diagram 10

Diberi bahawa isipadu gabungan mercu tanda tersebut ialah 40 m^3 .
Hitung tinggi piramid, dalam m.

*Given that the combined volume of the landmark is 40 m^3 .
Calculate the height of the pyramid, in m.*

[4 markah / 4 marks]

- (c) **Penyelesaian menggunakan kaedah matriks tidak dibenarkan untuk soalan ini.**

Solving using matrix method is not allowed in this question.

Jumlah pokok pisang dan cili yang ditanam di kebun Encik Yazid ialah 1050, manakala nisbah pokok pisang kepada pokok cili ialah 2:5.
The total number of banana and chilli plants planted in Mr. Yazid's orchard is 1050, while the ratio of banana plant to chilli plant is 2: 5.

Hitung, bilangan pokok pisang dan pokok cili.
Calculate, the number of banana plants and chilli plants.

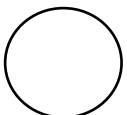
[5 markah /5 marks]

Jawapan / *Answer* :

(a)

(b)

(c)



KERTAS SOALAN TAMAT
END OF QUESTION PAPER