

NAMA : TINGKATAN :

**MODUL PENINGKATAN PRESTASI MURID
TINGKATAN 5
TAHUN 2025**

**MATEMATIK
KERTAS 1
1 Jam 30 Minit**

JANGAN BUKA MODUL INI SEHINGGA DIBERITAHU

- 1 Kertas soalan ini mengandungi 40 soalan aneka pilihan.
- 2 Kertas soalan ini adalah dalam dwibahasa.
- 3 Soalan dalam Bahasa Melayu mendahului soalan yang sepadan dalam Bahasa Inggeris.
- 4 Sila hitamkan jawapan anda pada kertas jawapan yang diberikan. Sekiranya anda ingin menukar jawapan, padam dan hitamkan jawapan anda yang baharu.

NOMBOR DAN OPERASI NUMBER AND OPERATIONS

- | | |
|--|---|
| <p>1 $a^m \times a^n = a^{m+n}$</p> <p>3 $(a^m)^n = a^{mn}$</p> <p>5 $a^{\frac{m}{n}} = (a^m)^{\frac{1}{n}} = (a^{\frac{1}{n}})^m$</p> <p>7 Faedah mudah / <i>Simple interest</i>,
$I = Prt$</p> | <p>2 $a^m \div a^n = a^{m-n}$</p> <p>4 $a^{\frac{1}{n}} = \sqrt[n]{a}$</p> <p>6 $a^{\frac{m}{n}} = \sqrt[n]{a^m} = (\sqrt[n]{a})^m$</p> <p>8 Nilai matang / <i>Maturity value</i>,
$MV = P \left(1 + \frac{r}{n}\right)^{nt}$</p> |
|--|---|
- 9 Jumlah bayaran balik / *Total repayment*, $A = P + Prt$
- 10
$$\text{Premium} = \frac{\text{Nilai muka polisi}}{\text{RMx}} \times (\text{Kadar premium per RMx})$$

$$\text{Premium} = \frac{\text{Face value of policy}}{\text{RMx}} \times (\text{Premium rate per RMx})$$
- 11 Jumlah insurans yang harus dibeli = $\left(\begin{array}{c} \text{Peratusan} \\ \text{ko-insurans} \end{array} \right) \times \left(\begin{array}{c} \text{Nilai boleh} \\ \text{insurans harta} \end{array} \right)$

$$\text{Amount of required insurance} = \left(\begin{array}{c} \text{Percentage of} \\ \text{co-insurance} \end{array} \right) \times \left(\begin{array}{c} \text{Insurable value} \\ \text{of property} \end{array} \right)$$

PERKAITAN DAN ALGEBRA RELATIONSHIP AND ALGEBRA

- | | |
|---|---|
| <p>1 Jarak / <i>Distance</i>
$= \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$</p> <p>3 Laju Purata = $\frac{\text{Jumlah jarak}}{\text{Jumlah masa}}$
$\text{Average speed} = \frac{\text{Total distance}}{\text{Total time}}$</p> <p>5 $A^{-1} = \frac{1}{ad - bc} \begin{pmatrix} d & -b \\ -c & a \end{pmatrix}$</p> | <p>2 Titik Tengah / <i>midpoint</i>
$(x, y) = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$</p> <p>4 $m = \frac{y_2 - y_1}{x_2 - x_1}$</p> <p>6 $m = -\frac{\text{pintasan-y}}{\text{pintasan-x}}$
 $m = -\frac{\text{y-intercept}}{\text{x-intercept}}$</p> |
|---|---|

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 $= \pi d = 2\pi r$
Circumference of circle $= \pi d = 2\pi r$
- 4 Luas bulatan $= \pi r^2$
Area of circle $= \pi r^2$
- 5 Panjang lengkok $= \frac{\theta}{360^\circ} \times 2\pi r$
Arc length $= \frac{\theta}{360^\circ} \times 2\pi r$
- 6 Luas sektor $= \frac{\theta}{360^\circ} \times \pi r^2$
Area of sector $= \frac{\theta}{360^\circ} \times \pi r^2$
- 7 Luas layang $= \frac{1}{2} \times$ hasil darab panjang dua pepenjuru
Area of kite $= \frac{1}{2} \times \text{product of the length of two diagonals}$
- 8 Luas trapezium $= \frac{1}{2} \times$ hasil tambah dua sisi $\times$ tinggi
Area of trapezium $= \frac{1}{2} \times \text{sum of parallel sides} \times \text{height}$
- 9 Luas permukaan silinder $= 2\pi r^2 + 2\pi rh$
Surface area of cylinder $= 2\pi r^2 + 2\pi rh$
- 10 Luas permukaan kon $= \pi r^2 + \pi rs$
Surface area of cone $= \pi r^2 + \pi rs$
- 11 Luas permukaan sfera $= 4\pi r^2$
Surface area of sphere $= 4\pi r^2$
- 12 Isi padu prisma $=$ luas keratan rentas $\times$ tinggi
Volume of prism $= \text{cross sectional area} \times \text{height}$
- 13 Isi padu silinder $= \pi r^2 h$
Volume of cylinder $= \pi r^2 h$

$$14 \quad \text{Isi padu kon} = \frac{1}{3} \pi j^2 t$$

$$\text{Volume of cone} = \frac{1}{3} \pi r^2 h$$

$$15 \quad \text{Isi padu sfera} = \frac{4}{3} \pi j^3$$

$$\text{Volume of sphere} = \frac{4}{3} \pi r^3$$

$$16 \quad \text{Isi padu piramid} = \frac{1}{3} \times \text{luas tapak} \times \text{tinggi}$$

$$\text{Volume of pyramid} = \frac{1}{3} \times \text{base area} \times \text{height}$$

$$17 \quad \text{Faktor skala, } k = \frac{PA'}{PA}$$

$$\text{Scale factor, } k = \frac{PA'}{PA}$$

$$18 \quad \text{Luas imej} = k^2 \times \text{luas objek}$$

$$\text{Area of image} = k^2 \times \text{area of object}$$

STATISTIK DAN KEBARANGKALIAN STATISTICS AND PROBABILITY

$$1 \quad \text{Min / Mean, } \bar{x} = \frac{\sum x}{N}$$

$$2 \quad \text{Min / Mean, } \bar{x} = \frac{\sum fx}{\sum f}$$

$$3 \quad \text{Varians / Variance, } \sigma^2 = \frac{\sum x^2}{N} - \bar{x}^2 = \frac{\sum (x - \bar{x})^2}{N}$$

$$4 \quad \text{Varians / Variance, } \sigma^2 = \frac{\sum fx^2}{\sum f} - \bar{x}^2 = \frac{\sum f(x - \bar{x})^2}{\sum f}$$

$$5 \quad \text{Sisihan piawai / Standard deviation, } \sigma = \sqrt{\frac{\sum x^2}{N} - \bar{x}^2} = \sqrt{\frac{\sum (x - \bar{x})^2}{N}}$$

$$6 \quad \text{Sisihan piawai / Standard deviation, } \sigma = \sqrt{\frac{\sum fx^2}{\sum f} - \bar{x}^2} = \sqrt{\frac{\sum f(x - \bar{x})^2}{\sum f}}$$

$$7 \quad P(A) = \frac{n(A)}{n(S)}$$

$$8 \quad P(A') = 1 - P(A)$$

Jawab **semua** soalan
 Answer **all** questions

- 1 Tentukan nilai digit yang bergaris bagi nombor di bawah.

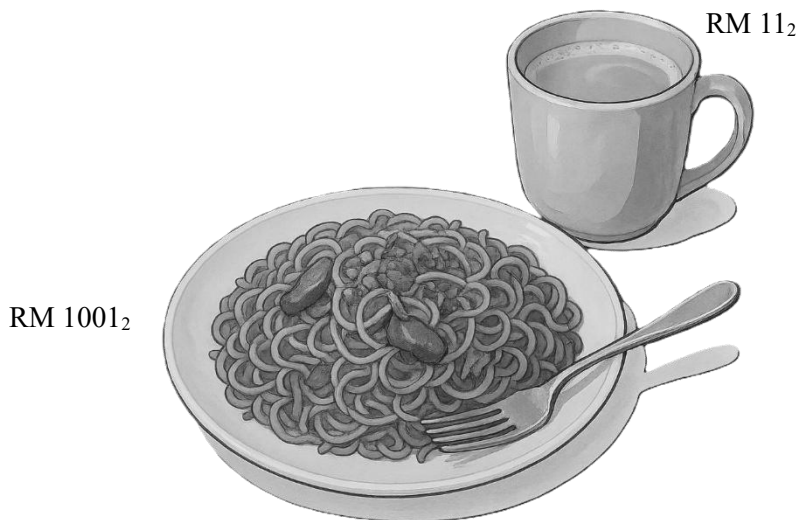
Determine the value of the underlined digit of the number below.

25041₆

- A 1 008
- B 1 080
- C 5 000
- D 6 480

- 2 Rajah 2 menunjukkan harga, dalam asas dua, bagi sepinggan mi goreng dan secawan air minuman yang dijual di sebuah gerai.

Diagram 2 shows the price, in base two, of a plate of fried noodles and a cup of drink sold at a stall.



Rajah / Diagram 2

Hitung jumlah harga makanan dan minuman tersebut, dalam asas dua.

Calculate the total price of the food and drink, in base two.

- A 1001₂
- B 1010₂
- C 1100₂
- D 1101₂

- 3 Berikut ialah suatu set nombor.

The following is a set of numbers.

$$-10, -4, 2, 8, \dots$$

Tentukan pola yang tepat bagi set nombor di atas.

Determine the correct pattern for the set of numbers above.

- A Mendarab nombor sebelumnya dengan 6.
Multiply the previous number by 6.
 - B Membahagi nombor sebelumnya dengan 6.
Divide the previous number by 6.
 - C Menolak 6 kepada nombor sebelumnya.
Subtract 6 to the previous number.
 - D Menambah 6 kepada nombor sebelumnya.
Add 6 to the previous number.
- 4 Diberi panjang dan lebar sebuah kolam renang berbentuk segi empat tepat masing-masing ialah 3.025×10^3 cm dan 1.25×10^3 cm. Hitung luas kolam renang tersebut, dalam cm^2 , betul kepada tiga angka bererti.

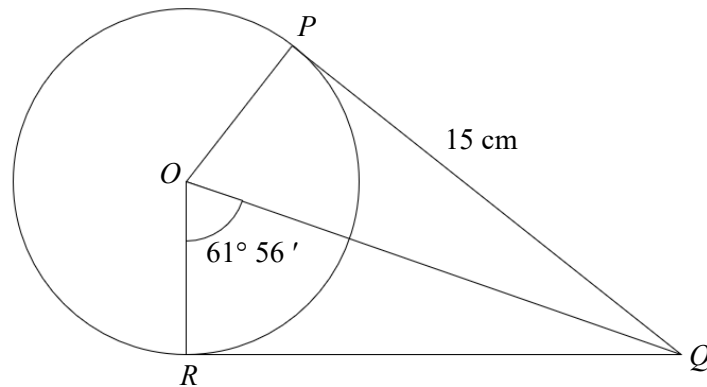
Given the length and width of a rectangular swimming pool are 3.025×10^3 cm and 1.25×10^3 cm. respectively. Calculate the area of the swimming pool, in cm^2 , correct to three significant figures.

- A 3.78×10^3
 - B 3.80×10^3
 - C 3.78×10^6
 - D 3.80×10^6
- 5 Antara berikut yang manakah bersamaan dengan $\sqrt[3]{9^2}$?

Which of the following is equivalent to $\sqrt[3]{9^2}$?

- A $9^{\frac{2}{3}}$
- B $9^{\frac{3}{2}}$
- C $3^{\frac{3}{4}}$
- D $3^{\frac{3}{2}}$

- 6 Rajah 6 menunjukkan garis PQ dan RQ adalah tangen kepada bulatan berpusat di O .
Diagram 6 shows lines PQ and RQ are tangent to a circle centered at O .



Rajah / Diagram 6

Diberi $PQ = 15$ cm dan $\angle QOR = 61^\circ 56'$, hitung panjang OQ .

Given $PQ = 15$ cm and $\angle QOR = 61^\circ 56'$, calculate the length of OQ .

- A 16.00
- B 17.00
- C 28.13
- D 31.88

- 7 Aniq adalah seorang pekerja di Syarikat Harmoni Jaya. Pendapatan tahunannya pada tahun 2024 ialah RM110 500. Pelepasan cukai yang dituntutnya ialah RM25 340. Dia juga memberi derma sebanyak RM400 kepada rumah anak yatim Mukmin yang diberi pengecualian cukai.

Aniq is an employee at Syarikat Harmoni Jaya. His annual income in 2024 is RM110 500. The tax relief he claims is RM25 340. He also donated RM400 to the Mukmin orphanage which is given a tax exemption.

Hitung pendapatan bercukai Aniq.

Calculate Aniq's chargeable income.

- A RM84 560
- B RM84 760
- C RM85 160
- D RM85 560

- 8 Hanie ingin membeli insurans kebakaran untuk rumahnya. Nilai boleh insurans rumah itu ialah RM550 000. Polisi insurans kebakaran yang ingin dibelinya itu mempunyai peruntukan ko-insurans untuk menginsuranskan 80% daripada nilai boleh insurans rumahnya.

Hanie wants to buy fire insurance for her house. The insurable value of the house is RM550 000. The fire insurance policy she wants to buy has a co-insurance provision to insure 80% of its insurable value.

Hitung jumlah insurans yang harus dibeli oleh Hanie bagi rumahnya itu.

Calculate the amount of insurance Hanie had to buy for her house.

- A RM420 000
- B RM440 000
- C RM444 000
- D RM484 000

- 9 Ash ingin membeli insurans hayat daripada Bamie Insurance. Jika kadar premium tahunan yang dikenakan ialah RM2.34 bagi setiap RM1 000 nilai muka dan jumlah premium tahunan yang perlu dibayarnya ialah RM514.80.

Ash wants to buy life insurance from Bamie Insurance. If the annual premium rate charged is RM2.34 for every RM1 000 face value and the total annual premium he has to pay is RM514.80.

Nyatakan nilai muka polisi Ash.

State the face value of the policy Ash.

- A RM171 600
- B RM198 000
- C RM214 500
- D RM220 000

- 10 Diberi $\frac{5}{9p+6q} = 7$, ungkapkan p dalam sebutan q .

Given $\frac{5}{9p+6q} = 7$, express p in terms of q .

- A $\frac{5-6q}{63}$
- B $\frac{5-6q}{9}$
- C $\frac{5-42q}{63}$
- D $\frac{5-42q}{9}$

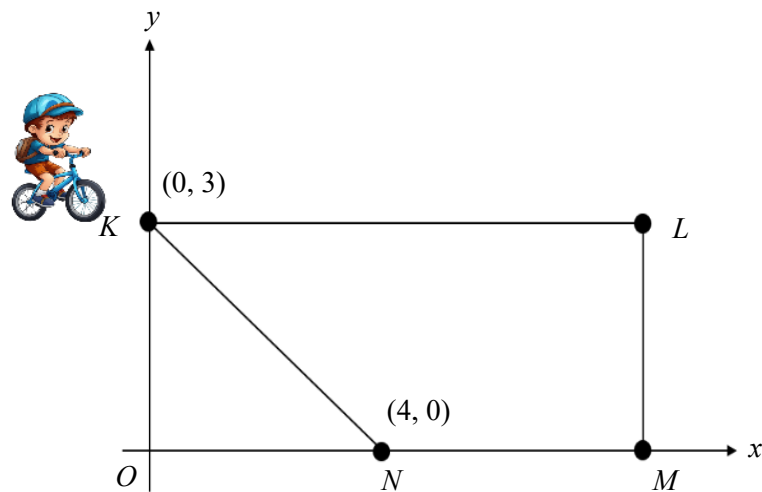
- 11 Diberi bahawa $\begin{pmatrix} 4 & 5 \\ 4 & 3 \end{pmatrix} \begin{pmatrix} -4 \\ -2 \end{pmatrix} = k \begin{pmatrix} 26 \\ 22 \end{pmatrix}$, hitung nilai k .

Given that $\begin{pmatrix} 4 & 5 \\ 4 & 3 \end{pmatrix} \begin{pmatrix} -4 \\ -2 \end{pmatrix} = k \begin{pmatrix} 26 \\ 22 \end{pmatrix}$, calculate the value of k .

- A -2
- B -1
- C 1
- D 2

- 12 Rajah 12 menunjukkan peta laluan kayuhan Fea yang bermula dari Bandar K ke Bandar L kemudian ke Bandar M seterusnya ke Bandar N dan akhirnya kembali ke Bandar K .

Diagram 12 shows the Fea cycling route map that starts from Town K to Town L then to Town M then to Town N and finally back to Town K .



Rajah/ Diagram 12

Diberi skala peta adalah 1 unit = 2 km dan $KL = 2KN$.

Hitung jarak keseluruhan perjalanan Fea dalam km.

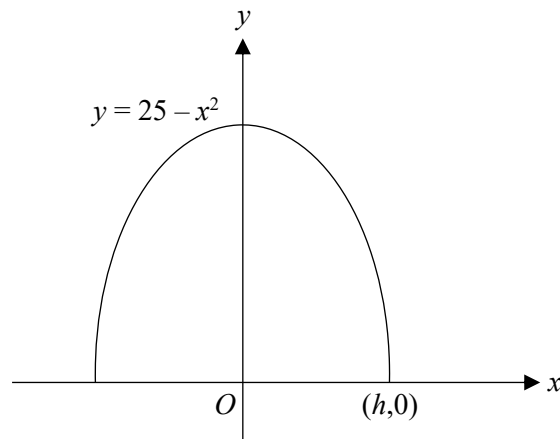
Given the scale of the map is 1 unit = 2 km and $KL = 2KN$.

Calculate the total distance of Fea's journey in km.

- A 48
- B 44
- C 24
- D 22

- 13 Rajah 13 menunjukkan graf bagi suatu fungsi.

Diagram 13 shows a graph of a function.



Rajah / Diagram 13

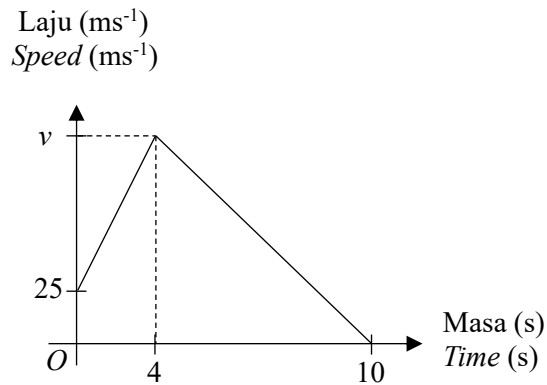
Cari nilai h .

Find the value of h .

- A -5
 - B -3
 - C 3
 - D 5
- 14 Antara koordinat berikut, manakah yang memuaskan $x < 6$, $y \leq x$, $2x + 3y > 12$?
Which of the following coordinates satisfies $x < 6$, $y \leq x$, $2x + 3y > 12$?
- A $(2,3)$
 - B $(3,2)$
 - C $(4,3)$
 - D $(7,2)$
- 15 Diberi $\sin x = -0.4226$ dan $90^\circ < x^\circ < 360^\circ$, hitung sudut-sudut bagi x .
Given the $\sin x = -0.4226$ and $90^\circ < x^\circ < 360^\circ$, calculate the angles of x .
- A $25^\circ, 155^\circ$
 - B $25^\circ, 205^\circ$
 - C $205^\circ, 335^\circ$
 - D $245^\circ, 295^\circ$

- 16 Rajah 16 menunjukkan graf laju-masa bagi sebuah bas dalam tempoh 10 saat.

Diagram 16 shows a speed-time graph of a bus in a period of 10 seconds.



Rajah / Diagram 16

Diberi bahawa kadar perubahan laju dalam tempoh 6 saat yang terakhir ialah -22 ms^{-2} , cari nilai v .

Given the rate of change of speed for the last 6 seconds is -22 ms^{-2} , find the value of v .

- A 122
B 132
C 142
D 156
- 17 Rajah 17 menunjukkan satu bentuk hujah deduktif.

Diagram 17 shows a form of a deductive argument.

Premis 1	: Jika $p \times 5 = 30$, maka $p = 6$
Premise 1	: If $p \times 5 = 30$, then $p = 6$

Premis 2 / Premise 2	: $p \neq 6$
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Kesimpulan / Conclusion	:
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Rajah / Diagram 17

Antara berikut, manakah merupakan kesimpulan yang tepat bagi hujah tersebut?

Which of the following is the correct conclusion for the argument?

- A $p = 6$
B $p \neq 6$
C $p \times 5 = 30$
D $p \times 5 \neq 30$

- 18 Tinggi, T , bagi sebuah pepejal berubah secara langsung dengan isipadunya, I , dan secara songsang dengan panjang, P , dan lebarnya, L . Diberi bahawa tinggi pepejal itu ialah 4 cm apabila isipadunya ialah 126 cm^3 . Panjang dan lebarnya masing-masing ialah 9 cm dan 3.5 cm.

The height, T , of a solid varies directly with its volume, I , and inversely with its length, P , and its width, L . It is given that the height of the solid is 4 cm when its volume is 126 cm^3 . Its length and width are 9 cm and 3.5 cm respectively.

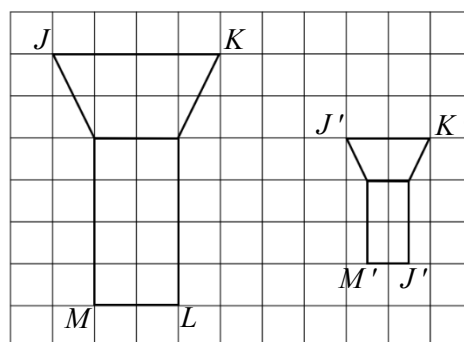
Hitung lebar, dalam cm, bagi pepejal yang mempunyai tinggi 12 cm, isipadu $1\,701 \text{ cm}^3$ dan panjang 27 cm.

Calculate the width, in cm, of a solid that has a height of 12 cm, a volume of $1\,701 \text{ cm}^3$ and a length of 27 cm.

- A 5.20
- B 5.25
- C 10.40
- D 10.50

- 19 Rajah 19 menunjukkan objek $JKLM$ dan lukisan berskala $J'K'L'M'$ yang dilukis pada grid segi empat sama.

Diagram 19 shows the object $JKLM$ and a scale drawing $J'K'L'M'$ drawn on a square grid.



Rajah / Diagram 19

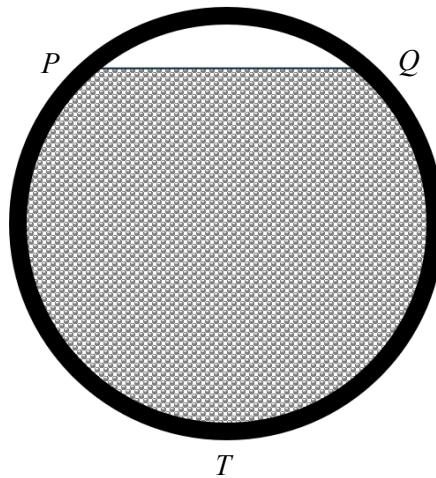
Diberi skala yang digunakan ialah 1: n . Tentukan nilai n .

Given that the scale used is 1: n . Determine the value of n .

- A $\frac{1}{3}$
- B $\frac{1}{2}$
- C 1
- D 2



- 20 Rajah 20 menunjukkan keratan rentas sebatang pembetung air berbentuk bulatan dengan jejari 25 cm.
Diagram 20 shows the cross-section of a circular sewer with a radius of 25 cm.



Rajah / Diagram 20

PQ merupakan paras air tertinggi dan T merupakan tapak pembetung air itu.
 Diberi $PQ = 20$ cm, hitung tinggi paras air, PQ dari tapak pembetung, T .

PQ is the highest water level and T is the base of the circular sewer.

Given $PQ = 20$ cm, calculate the height of the water level, PQ from the base of the circular sewer, T .

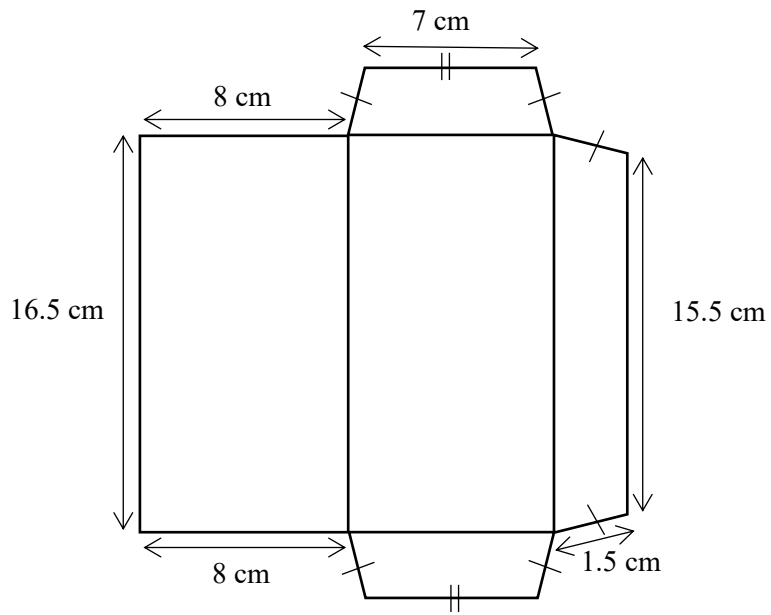
- A 30
 - B 40
 - C 42.91
 - D 47.91
- 21 Antara berikut, manakah **BUKAN** merupakan transformasi isometri?

*Which of the following is **NOT** isometric transformation?*

- A Putaran
Rotation
- B Pantulan
Reflection
- C Pembesaran
Enlargement
- D Translasi
Translation

- 22 Rajah 22 menunjukkan suatu templat sampul raya yang dimiliki oleh Hariz.

Diagram 22 shows a template of raya envelope owned by Hariz.



Rajah / Diagram 22

Hitung perimeter templat sampul raya itu.

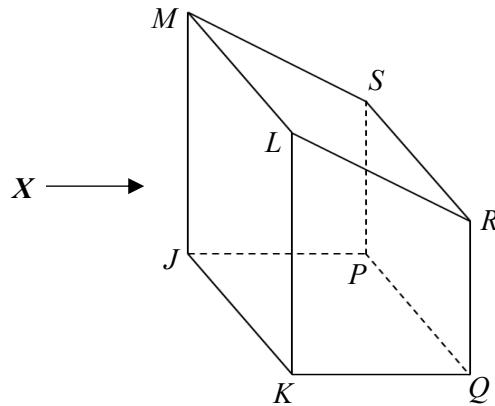
Calculate the perimeter of the template of raya envelope.

- A 68
 B 71
 C 118
 D 120
- 23 Hitung nilai $3 \cos 30^\circ - 2 \sin 60^\circ$.
- Calculate the value of $3 \cos 30^\circ - 2 \sin 60^\circ$.*

- A $\frac{1}{2}$
 B $\frac{2}{\sqrt{3}}$
 C $\frac{\sqrt{3}}{2}$
 D $\frac{1}{\sqrt{3}}$

- 24 Rajah 24 menunjukkan sebuah pepejal berbentuk prisma tegak dengan tapak segi empat tepat $JKQP$ terletak di atas satah mengufuk. Permukaan $KQRL$ ialah keratan rentas seragam prisma dan $MLRS$ ialah satah condong. Tepi KL dan QR adalah tegak.

Diagram 24 shows a solid in the shape of a right prism with a rectangular base $JKQP$ lying on a horizontal plane. The surface $KQRL$ is the uniform cross-section of the prism and $MLRS$ is an inclined plane. The edges KL and QR are perpendicular.

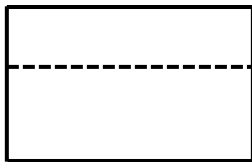


Rajah / Diagram 24

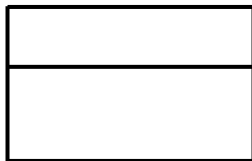
Antara berikut, yang manakah merupakan dongakan pepejal itu pada satah mencancang yang selari dengan JK sebagaimana di lihat dari X ?

Which of the following is the elevation of the solid on a vertical plane parallel to JK as seen from X ?

A



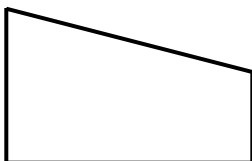
B



C



D

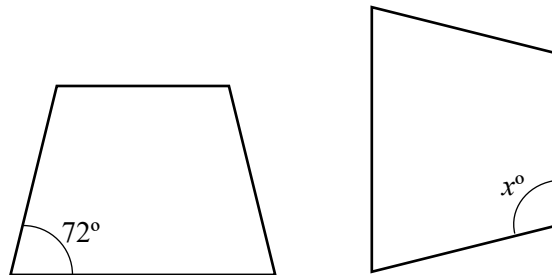


- 25 Satu set huruf yang dapat membentuk perkataan “**KEBARANGKALIAN**” diletakkan di dalam sebuah kotak. Satu huruf diambil daripada set tersebut secara rawak. Hitung kebarangkalian peristiwa pelengkap memilih huruf vokal.

*A set of letters that can form the word “**KEBARANGKALIAN**” is placed in a box. One letter is taken from the set at random. Calculate the probability of a complementary event choosing a vowel.*

- A 0.43
- B 0.57
- C 0.60
- D 0.80

- 26 Rajah 26 menunjukkan dua trapezium yang kongruen dengan sepasang sisi yang sama panjang. *Diagram 26 shows two congruent trapeziums with a pair of sides of equal length.*



Rajah / Diagram 26

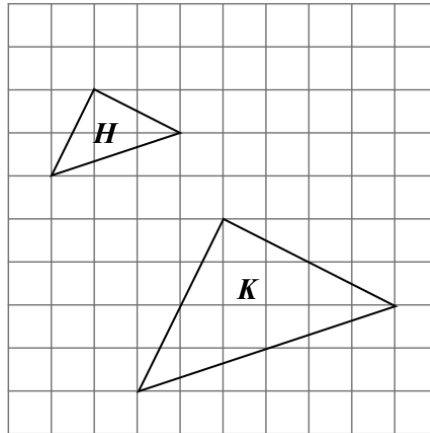
Hitung nilai x .

Calculate the value of x .

- A 72
- B 108
- C 144
- D 216

- 27 Rajah 27 menunjukkan segi tiga K ialah imej bagi segi tiga H di bawah satu transformasi. Diberi bahawa luas segi tiga K ialah 10 unit^2 .

Diagram 27 shows the triangle K is the image of the triangle H under a transformation. Given that the area of the triangle K is 10 unit^2 .



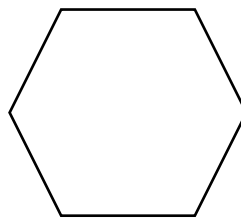
Rajah / Diagram 27

Hitung luas, dalam unit^2 , bagi segi tiga H .

Calculate the area, in units^2 , of the triangle H .

- A 2.5
 - B 5.5
 - C 25
 - D 40
- 28 Rajah 28 menunjukkan sebuah heksagon sekata.

Diagram 28 shows a regular hexagon.



Rajah / Diagram 28

Tentukan bilangan paksi simetri bagi heksagon itu.

Determine the number of axes of symmetry for the hexagon.

- A 3
- B 4
- C 5
- D 6

- 29** Rajah 29 menunjukkan maklumat berkaitan dengan simpanan.

Diagram 29 shows information related to savings.

- Pemegang akaun boleh melakukan pembayaran kepada pihak lain melalui cek.
The account holder may make payment to another party by cheque.
- Simpanan dalam akaun tidak dibayar faedah sebaliknya dikenakan caj perkhidmatan.
Savings in the account will not be paid interest and is subjected to service charges.

Rajah / Diagram 29

Nyatakan jenis cara simpanan tersebut.

State the type of savings method.

- A** Akaun Semasa.
Current Account.
- B** Akaun Simpanan.
Saving Account.
- C** Akaun Simpanan Tetap.
Fixed Deposit Account.
- D** Amanah Saham.
Unit Trust.

- 30** Jadual 30 menunjukkan skor ujian Matematik bagi sekumpulan murid.

Table 30 shows the Mathematics test scores for a group of pupils.

27	14	20	25	21	30	35	17
12	31	18	23	36	20	15	18

Jadual / Table 30

Cari julat bagi skor ujian Matematik tersebut.

Find the range of the Mathematics test scores.

- A** 21
- B** 22
- C** 23
- D** 24

- 31 Rajah 31 menunjukkan plot batang–dan–daun bagi bilangan botol jus minuman yang dijual oleh Afnan selama seminggu.

Diagram 31 shows a stem–and–leaf plot of the number of bottles of juice drinks sold by Afnan for a week.

Batang Stem	Daun Leaf
3	0 8
4	5 7 7
5	2 6

Kekunci : 3 | 0 bermakna 30 botol

Key : 3 | 0 means 30 bottles

Rajah / Diagram 31

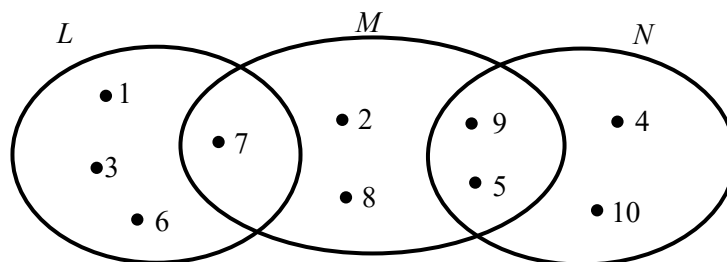
Hitung sisihan piawai bagi jus minuman yang telah dijual.

Calculate the standard deviation for the juice drinks sold.

- A 8.04
B 8.22
C 9.01
D 9.25
- 32 Rajah 32 menunjukkan gambar rajah Venn bagi set L , set M dan set N dengan keadaan set semesta, $\xi = L \cup M \cup N$.

Diagram 32 shows a Venn diagram of set L , set M and set N such that the universal set,

$\xi = L \cup M \cup N$.



Rajah / Diagram 32

Cari bilangan unsur bagi set $L \cup N$.

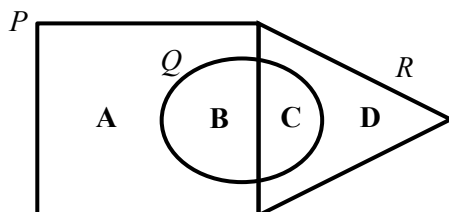
Find the number of elements in the set of $L \cup N$.

- A 5
B 6
C 8
D 10

- 33 Rajah 33 menunjukkan gambar rajah Venn bagi set P , set Q dan set R dengan keadaan set semesta, $\xi = P \cup Q \cup R$.

Diagram 33 shows a Venn diagram of set P , set Q and set R such that the universal set,

$$\xi = P \cup Q \cup R.$$



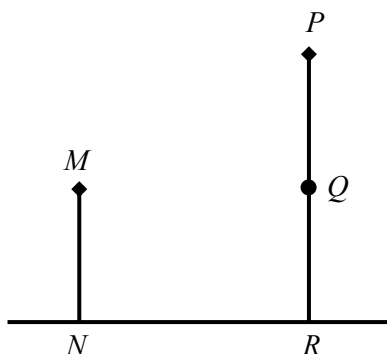
Rajah / Diagram 33

Antara rantau **A**, **B**, **C** dan **D**, yang manakah mewakili set $P \cap Q' \cap R'$?

Which of the region **A**, **B**, **C** and **D**, represents the set of $P \cap Q' \cap R'$?

- 34 Rajah 34 menunjukkan dua batang tiang tegak, MN dan PR .

Diagram 34 shows two vertical poles, MN and PR .



Rajah / Diagram 34

Diberi $MN = QR$, nyatakan sudut dongak P dari M .

Given that $MN = QR$, state the angle of elevation of P from M .

- A $\angle QMP$
- B $\angle QNP$
- C $\angle RMP$
- D $\angle RNP$

- 35 Cheng Ooi menerima gaji bulanan sebanyak RM4 000. Beliau juga menerima RM1 500 daripada pekerjaan sampingannya. Cheng Ooi menyimpan sebanyak RM800 sebulan. Perbelanjaan tetap dan tidak tetapnya masing-masing ialah RM2 250 dan RM850.

Hitung aliran tunai Cheng Ooi pada bulan ini jika perbelanjaan tidak tetap beliau meningkat sebanyak 50%.

Cheng Ooi receives a monthly salary of RM4 000. She also receives RM1 500 from her side job. Cheng Ooi saves RM800 per month. Her fixed and variable expenses are RM2 250 and RM850 respectively.

Calculate Cheng Ooi's cash flow this month if her variable expenses increase by 50%.

- A RM1 175
- B RM1 600
- C RM2 275
- D RM3 200

- 36 Sebuah bekas mengandungi tujuh batang pen merah dan lima batang pen biru. Dua batang pen dipilih secara rawak, satu persatu daripada bekas itu, tanpa pengembalian.

A container contains seven red pens and five blue pens. Two pens are chosen randomly one by one from the container, without replacement.

Cari kebarangkalian bahawa sekurang-kurangnya satu pen yang dipilih ialah pen biru.

Find the probability that at least one blue pen are chosen.

- A $\frac{5}{22}$
- B $\frac{7}{22}$
- C $\frac{15}{22}$
- D $\frac{31}{22}$

- 37** Jadual 37 menunjukkan jadual kekerapan longgokan bagi markah yang dikumpul oleh 30 orang murid dalam suatu kuiz.

Table 37 shows a cumulative frequency table of the marks collected by 30 pupils in a quiz.

Markah Marks	Kekerapan longgokan Cumulative frequency
11 – 15	3
16 – 20	8
21 – 25	14
26 – 30	22
31 – 35	27
36 – 40	30

Jadual / Table 37

Cari mod bagi data itu.

Find the mode of the data.

- A** 16 – 20
B 21 – 25
C 26 – 30
D 31 – 35
- 38** Jadual 38 menunjukkan taburan kekerapan bagi ketinggian pokok rambutan.

Table 38 shows the frequency distribution of the height of rambutan trees.

Tinggi (m) Height (m)	Kekerapan Frequency
15.0 – 15.4	10
15.5 – 15.9	25
16.0 – 16.4	47
16.5 – 16.9	30
17.0 – 17.4	x
17.5 – 17.9	19

Jadual / Table 38

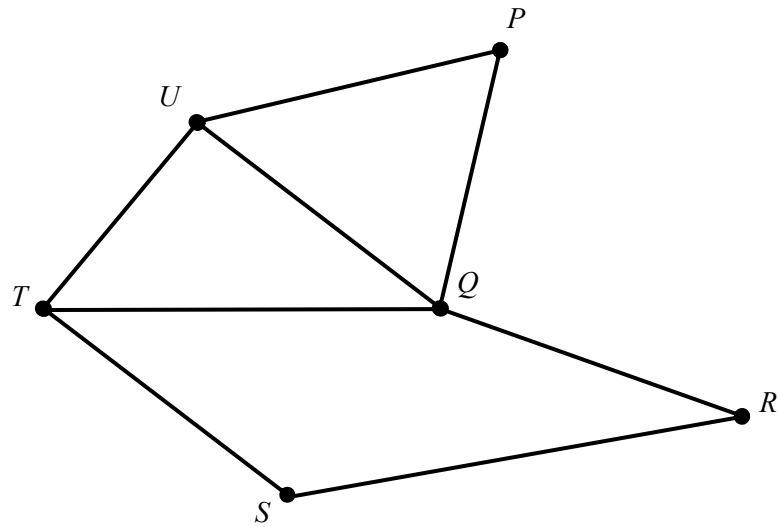
Diberi nilai min ketinggian pokok rambutan itu ialah 16.575 m. Hitung nilai x .

Given the mean height of the rambutan tree is 16.575 m. Calculate the value of x .

- A** 38
B 45
C 47
D 51

39 Rajah 39 menunjukkan suatu graf mudah.

Diagram 39 shows a simple graph.



Rajah / Diagram 39

Berdasarkan graf tersebut, berapakah bilangan tepi yang perlu digugurkan bagi menjadikan ianya suatu graf pokok?

Based on the graph, how many edges need to be exempted to form a tree?

- A 1
- B 2
- C 3
- D 4

- 40** Jadual 40 menunjukkan senarai perbelanjaan bagi Puan Charlene pada bulan Mei.

Table 40 shows a list of expenses for Puan Charlene in May.

Perbelanjaan <i>Expenses</i>	
Bayaran insurans keluarga <i>Family insurance</i>	450
Ansuran rumah <i>House instalment</i>	1350
Ansuran kereta <i>Car instalment</i>	650
Barangan dapur <i>Groceries</i>	1200
Pemberian kepada ibu bapa <i>Allowances for parents</i>	400
Bil utiliti <i>Utility bills</i>	300

Jadual / Table 40

Antara berikut, manakah merupakan perbelanjaan tetap Puan Charlene?

Which of the following is Puan Charlene's fixed expense?

- A** Bil utiliti.
Utility bills.
- B** Barangan dapur.
Groceries.
- C** Pemberian kepada ibu bapa.
Allowances for parents.
- D** Ansuran kereta.
Car instalment.