

NAMA: TINGKATAN:

1449/1
Matematik
Kertas 1
Nov 2022
 $1\frac{1}{2}$ jam

SEKOLAH MENENGAH

PEPERIKSAAN PERCUBAAN SPM TAHUN 2022

TINGKATAN 5

MATEMATIK

Kertas 1

Satu jam tiga puluh minit

JANGAN BUKA MODUL INI SEHINGGA DIBERITAHU

1. *Modul ini mengandungi 40 soalan dalam dwibahasa.*
2. *Jawab semua soalan.*
3. *Rajah yang mengiringi soalan tidak dilukis mengikut skala kecuali dinyatakan.*
4. *Satu senarai rumus disediakan di halaman 2 hingga 4.*
5. *Anda dibenarkan menggunakan kalkulator saintifik.*

Modul ini mengandungi 28 halaman bercetak.

**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>9 Jumlah bayaran balik / <i>Total repayment</i>, $A = P + Prt$</p> | <p>2 $a^m \div a^n = a^{m-n}$</p> <p>4 $\frac{1}{a^n} = \frac{1}{\sqrt[n]{a}}$</p> <p>6 $a^{\frac{m}{n}} = \sqrt[n]{a^m} = (\sqrt[n]{a})^m$</p> <p>8 Nilai matang / <i>Maturity value</i>, $M = P \left(1 + \frac{r}{n}\right)^{nt}$</p> |
|---|--|

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
$$\text{Jumlah insurans yang harus dibeli} = \left(\begin{array}{c} \text{Peratusan} \\ \text{ko-insurans} \end{array} \right) \times \left(\begin{array}{c} \text{Nilai boleh} \\ \text{insurans harta} \end{array} \right)$$

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

**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 = $\frac{\text{Jumlah jarak}}{\text{Jumlah masa}}$</p> <p>$\text{Average speed} = \frac{\text{Total distance}}{\text{Total time}}$</p> <p>4 $A^{-1} = \frac{1}{ad - bc} \begin{pmatrix} d & -b \\ -c & a \end{pmatrix}$</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>5 $m = -\frac{\text{pintasan-y}}{\text{pintasan-x}}$</p> <p>$m = -\frac{\text{y-intercept}}{\text{x-intercept}}$</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 $\frac{\text{Panjang lengkok}}{2\pi r} = \frac{\theta}{360^\circ}$
 $\frac{\text{Arc length}}{2\pi r} = \frac{\theta}{360^\circ}$
- 6 $\frac{\text{Luas sektor}}{\pi r^2} = \frac{\theta}{360^\circ}$
 $\frac{\text{Area of sector}}{\pi r^2} = \frac{\theta}{360^\circ}$
- 7 Luas layang $= \frac{1}{2} \times \text{hasil darab panjang dua pepenjuru}$
Area of kite $= \frac{1}{2} \times \text{product of two diagonals}$
- 8 Luas trapezium $= \frac{1}{2} \times \text{hasil tambah dua sisi selari} \times \text{tinggi}$
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 $= \text{luas keratan rentas} \times \text{tinggi}$
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 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, $\sigma^2 = \frac{\sum x^2}{N} - \bar{x}^2 = \frac{\sum (x - \bar{x})^2}{N}$
- 4 Varians / Variance, $\sigma^2 = \frac{\sum fx^2}{\sum f} - \bar{x}^2 = \frac{\sum f(x - \bar{x})^2}{\sum f}$
- 5 Sisihan piawai / Standard deviation, $\sigma = \sqrt{\frac{\sum x^2}{N} - \bar{x}^2} = \sqrt{\frac{\sum (x - \bar{x})^2}{N}}$
- 6 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 $P(A) = \frac{n(A)}{n(S)}$
- 8 $P(A') = 1 - P(A)$

Jawab **semua** soalan.

Answer **all** questions.

1. Ungkapkan 294 000 dalam bentuk piawai.

Express 294 000 in the standard form

- A 2.94×10^5
- B 2.94×10^6
- C 0.294×10^6
- D 29.4×10^5

2. Sebidang tanah berbentuk segi empat tepat dilukis 12 cm panjang dan 10 cm lebar pada sebuah peta dengan skala 1:200 000. Hitung luas sebenarnya dalam m^2 .

A rectangular piece of land is 12 cm long and 10 cm wide on a map of scale 1: 200 000. Calculate the actual area, in m^2 .

- A 4.8×10^6
- B 4.8×10^8
- C 4.8×10^{12}
- D 4.8×10^{20}

3. Kathy telah menerima satu pinjaman peribadi sebanyak RM 15 000 daripada sebuah bank dengan kadar faedah sebanyak 7% setahun selama 18 bulan. Hitung bayaran ansuran bulanan Kathy.

Kathy has received one personal loan of RM15 000 from a bank with an interest of 7% per year for 18 months. Calculate Kathy's monthly payment.

- A RM 11 500
- B RM 1 575
- C RM 920.83
- D RM 638.89

4. Gaji Muiz ialah RM3 500 setiap bulan. Dia mempunyai perbelanjaan tetap dan tidak tetap masing – masing sebanyak RM1 200 dan RM 900 setiap bulan. Berapakah aliran tunai bulanannya?

Muiz's salary is RM3 500 every month. He has fixed and variable expenses of RM1 200 and RM 900 respectively for every month. What is his monthly cash flow?

- A RM1 400
- B RM2 100
- C RM2 300
- D RM2 600

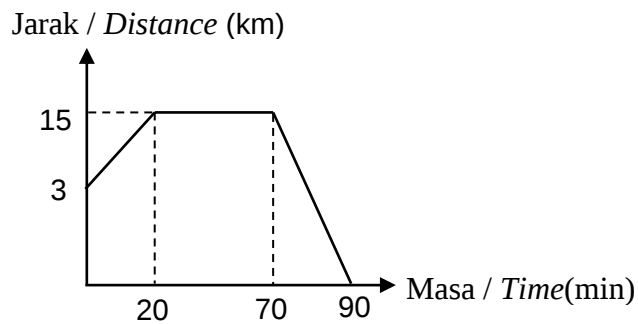
5. Cik Wafiqah mempunyai sebuah rumah kediaman di sebuah bandar di Semenanjung Malaysia. Majlis perbandaran mengenakan cukai pintu 8% ke atas rumah kediaman di bawah pengurusanannya. Diberi bahawa taksiran tahunan rumah kediaman Cik Wafiqah ialah RM4 800. Hitung cukai pintu yang perlu dibayar Cik Wafiqah bagi setiap setengah tahun.

Miss Wafiqah has a residential house in a city in Peninsular Malaysia. The city council imposes a property assessment tax of 8% on residential houses under its administration. Given that the yearly assessment of Miss Wafiqah's residential house is RM4 800. Calculate the property assessment tax Miss Wafiqah has to pay for every half a year.

- A RM1 920
- B RM3 840
- C RM384
- D RM192

6. Rajah 1 menunjukkan graf jarak-masa bagi sebuah bas

Diagram 1 shows the distance-time graph of a bus.



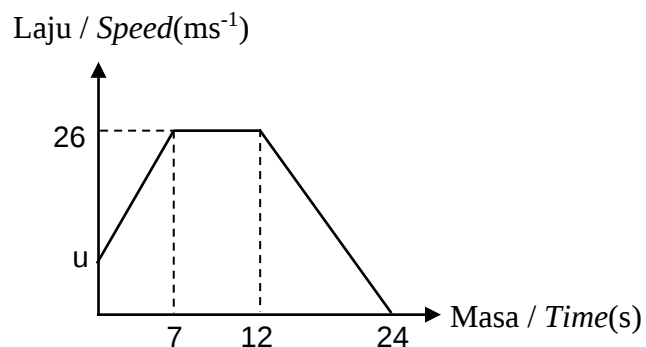
Rajah 1
Diagram 1

Hitung kadar perubahan jarak bagi 20 minit terawal, dalam km/min.

Calculate the rate of change of distance in the first 20 minutes, in km/min.

- A -0.75
B 0.75
C 0.6
D -0.6
7. Rajah 2 menunjukkan graf laju-masa bagi pergerakan suatu zarah dalam tempoh 24 saat.

Diagram 2 shows the velocity-time graph of the movement of a particle over a period of 24 seconds.



Rajah 2
Diagram 2

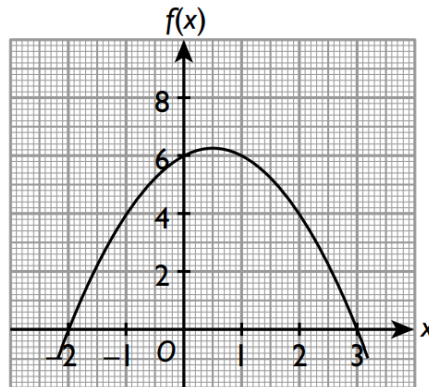
Jumlah jarak yang dilalui oleh zarah itu ialah 398 m. Hitung nilai bagi u.

The total distance traveled by the particle is 398 m. Calculate the value of u.

- A 5
B 6
C 7
D 8

8. Berdasarkan Rajah 3, graf fungsi kuadratik berikut, nyatakan punca-punca bagi graf kuadratik yang diberi.

Based on the Diagram 3, the following graphs of quadratic functions, state the roots of the given quadratic graph.



Rajah 3
Diagram 3

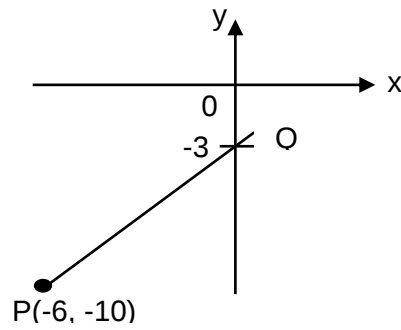
- A $x = 6$
 B $x = -2, 3$
 C $x = -3, -2$
 D $x = -2, 0, 3$
9. M berubah secara langsung dengan punca kuasa tiga N dan kuasa tiga T. Nyatakan hubungan antara pemboleh ubah dalam ubahan berikut dengan menggunakan simbol α .

M varies directly as the cube root of N and the cube of T. State the relationship between the variables in the following variations by using the symbol α .

- A $M \propto \sqrt{N}T^3$
 B $M \propto N^3T^3$
 C $M \propto \sqrt[3]{NT}$
 D $M \propto \sqrt[3]{N}T^3$

10. Dalam Rajah 4, PQ ialah garis lurus

In Diagram 4, PQ is a straight line.



Rajah 4
Diagram 4

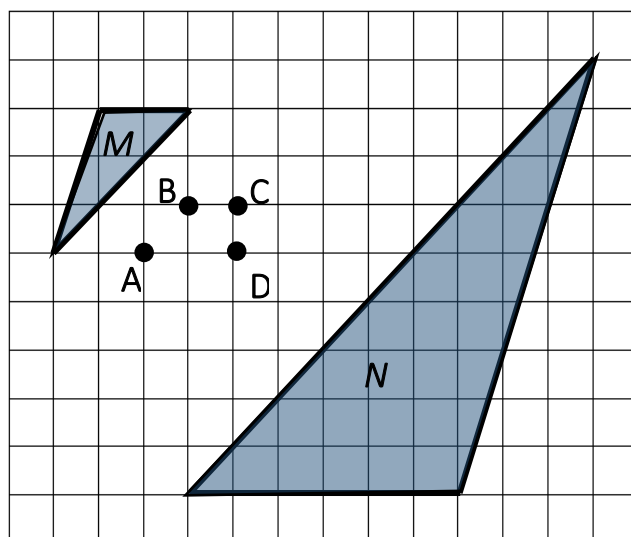
Cari kecerunan bagi PQ

Find the gradient of PQ

- A $\frac{10}{9}$
B $\frac{10}{3}$
C $\frac{13}{6}$
D $\frac{7}{6}$

11. Rajah 5 menunjukkan dua segi tiga M dan N bagi suatu grid empat sama. N ialah imej bagi M di bawah suatu pembesaran. Antara titik berlabel **A**, **B**, **C** dan **D**, yang manakah ialah pusat pembesaran?

*The Diagram 5 shows two triangles M and N on a square grid. N is the image of M under an enlargement. Which of the points labelled **A**, **B**, **C** and **D** is the centre of enlargement?*



Rajah 5
Diagram 5

12. Hitung amplitud dan tempoh bagi $y = 2 \sin 3x + 3$.

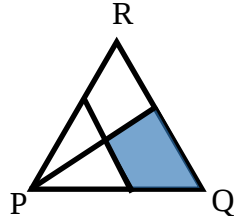
Calculate the amplitude and period of $y = 2 \sin 3x + 3$.

- A** Amplitud = 2, Tempoh = 120°
Amplitude = 2, Period = 120°
- B** Amplitud = 2, Tempoh = 180°
Amplitude = 2, Period = 180°
- C** Amplitud = 3, Tempoh = 120°
Amplitude = 3, Period = 120°
- D** Amplitud = 3, Tempoh = 180°
Amplitude = 3, Period = 180°

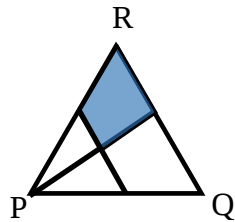
13. PQR ialah sebuah segi tiga sama sisi dengan panjang sisi 4 cm. Titik X bergerak dalam segi tiga sama sisi itu dengan keadaan $PX \geq 2$ cm dan $\angle QPX \leq 30^\circ$. Lorekkan rantau di mana titik X sepatutnya terletak.

PQR is an equilateral triangle with the length of 4cm. Point X moves in the equilateral triangle in the condition $PX \geq 2$ cm and $\angle QPX \leq 30^\circ$. Identify and shade where point X should be.

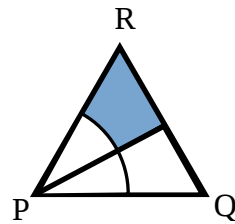
A



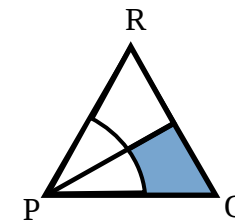
B



C

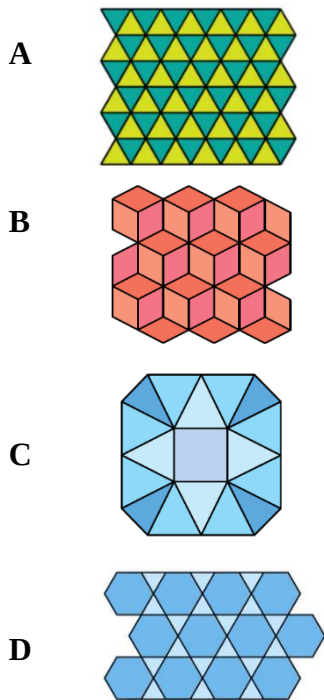


D



14. Antara berikut, imej yang manakah **bukan** merupakan satu teselasi?

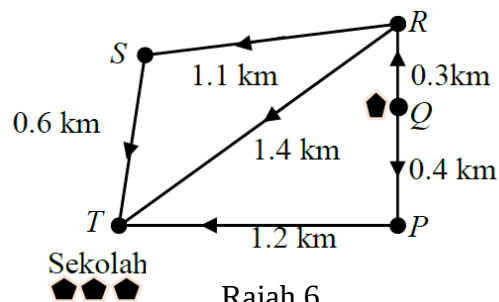
*Which of the following images is **not** a tessellation?*



15. Rajah 6 menunjukkan graf terarah dari rumah Isma di Q, ke sekolah di T. Tentukan laluan terbaik yang dipilih oleh Isma untuk ke sekolah dengan mengambil kira jarak terpendek.

Diagram 6 shows a directed graph from Isma's house in Q, to the school in T.

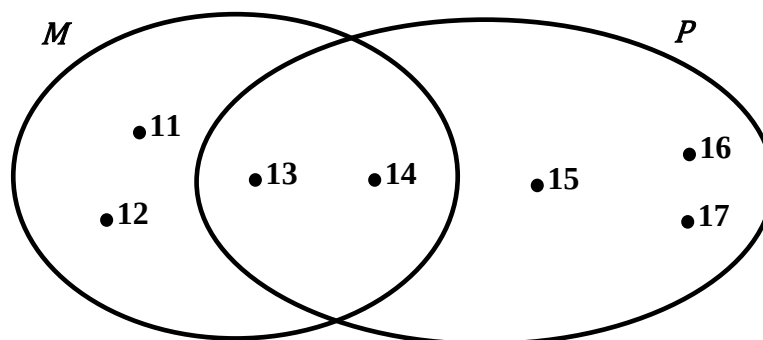
Determine the best route Isma chooses to go to school taking the shortest distance.



Rajah 6
Diagram 6

- A $Q \rightarrow R \rightarrow T$
- B $Q \rightarrow P \rightarrow T$
- C $Q \rightarrow R \rightarrow S \rightarrow T$
- D $Q \rightarrow R \rightarrow P \rightarrow T$

16. Rajah 7 menunjukkan gambar rajah Venn dengan set semesta, $\xi = M \cup P$.
Diagram 7 shows a Venn diagram with the universal set, $\xi = M \cup P$.



Rajah 7
Diagram 7

Senaraikan semua unsur bagi set $M' \cap P$.

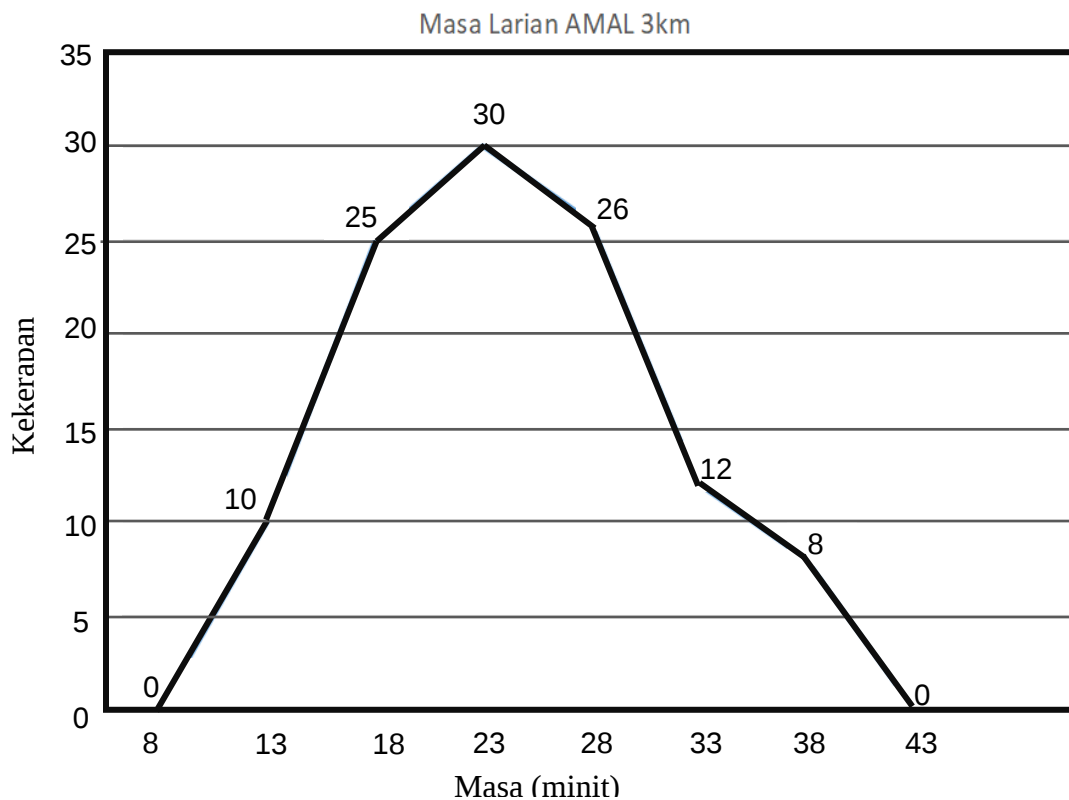
List all the elements of set $M' \cap P$.

- A {11, 12}
B {16, 17}
C {15, 16, 17}
D {13, 14, 15}
17. Antara pernyataan berikut yang manakah pernyataan benar?
Which of following statement is true statement?

- A $1^0 = 1$
B $13 \times 2 = 3 \times 13$
C 15 ialah nombor perdana
15 is a prime number
D Semua sudut tirus lebih daripada 90°
All acute angles greater than 90°

18. Poligon kekerapan di Rajah 8 bawah menunjukkan masa yang dicatatkan oleh sekumpulan peserta dalam acara larian AMAL di Sekolah Menengah Raja Muda. Cari jumlah peserta dalam acara larian AMAL ini

The frequency polygon in the Diagram 8 below shows the time recorded by a group of participants in the AMAL running event in Sekolah Menengah Raja Muda. Find the number of participants in this CHARITY run event

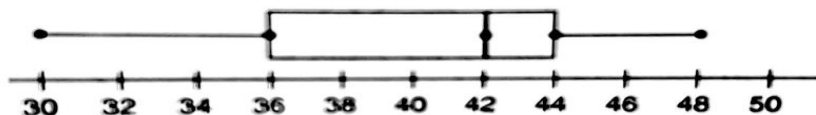


Rajah 8
Diagram 8

- A 30
- B 111
- C 204
- D 105

19. Rajah 9 di bawah menunjukkan suatu plot kotak yang mewakili umur sekumpulan guru.

The Diagram 9 below shows a box-plot which represents the age of a group of teachers.



Rajah 9
Diagram 9

Tentukan julat antara kuartil bagi data tersebut.

Determine the interquartile range for the data.

- A 6
B 8
C 14
D 18
20. Dalam sebuah kelas yang mempunyai 35 orang murid, 7 orang murid memakai cermin mata, 10 orang murid suka menyanyi dan 21 orang murid menaiki bas ke sekolah. Jika seorang murid dipilih secara rawak daripada kelas itu, cari kebarangkalian bahawa murid itu tidak memakai cermin mata.

In a class of 35 students, 7 of them are wearing spectacles, 10 of them like to sing and 21 of them go to school by bus. If one of the students was randomly chosen from the class, calculate the probability for not wearing spectacle.

- A $\frac{4}{5}$
B $\frac{2}{7}$
C $\frac{1}{5}$
D $\frac{3}{5}$

21. Antara berikut yang manakah betul?

Which of the following is true?

A $a^5 = a \times a \times a \times a \times a$

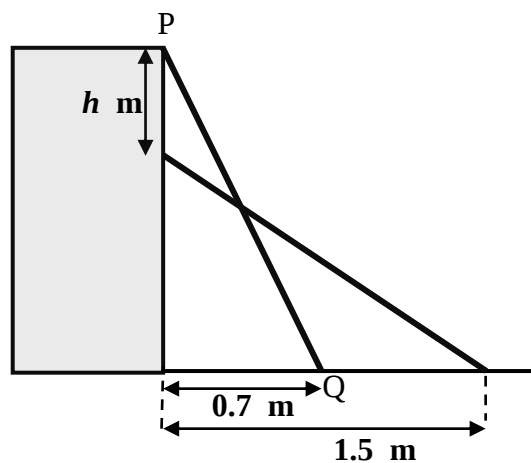
B $m \times m \times m = 3^m$

C $p^{-2} = -\frac{2}{p}$

D $\frac{1}{r} \times \frac{1}{r} \times \frac{1}{r} \times \frac{1}{r} = \frac{1}{r^{-4}}$

22. Rajah 10 di sebelah menunjukkan sebuah tangga PQ disandarkan pada dinding. Panjang tangga ialah 2.5 m dan jarak kaki tangga dari dinding ialah 0.7 m. Apabila bahagian atas tangga itu tergelincir ke bawah sebanyak h m, jarak kaki tangga dari dinding ialah 1.5 m. Cari nilai h .

The Diagram 10 shows a ladder PQ leaning against the wall. The ladder is 2.5 m long and the base of the ladder is 0.7 m away from the wall. When the top of the ladder slides down a distance of h m, the base of the ladder becomes 1.5 m away from the wall. Find the value of h .

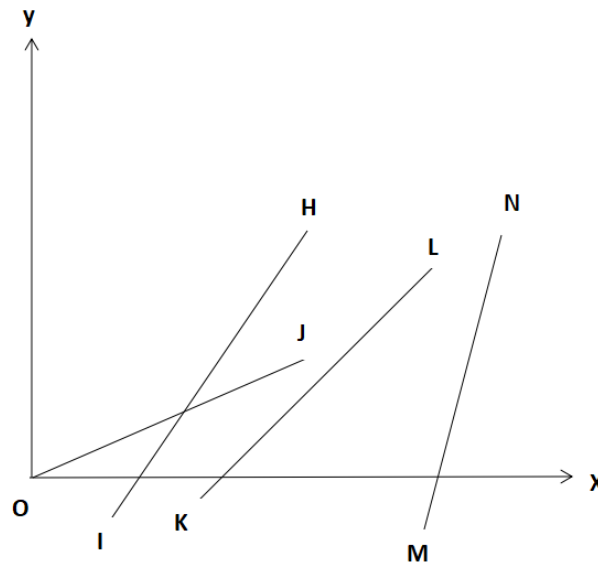


Rajah 10
Diagram 10

- A** $h = 4.0$
B $h = 0.2$
C $h = 2.0$
D $h = 0.4$

23. Kenal pasti garis lurus dalam Rajah 11 di sebelah yang mempunyai nilai kecerunan terbesar dan terkecil serta nyatakan alasannya.

Determine the gradient of the four straight line in the Diagram 11 below. State the line with the highest and lowest gradient.



Rajah 11
Diagram 11

- A** Garis lurus MN merupakan garis lurus yang mempunyai kecerunan paling besar kerana menghampiri keadaan mencancang. Garis lurus OJ merupakan garis lurus yang mempunyai kecerunan paling kecil kerana menghampiri keadaan mengufuk.

Straight line MN is the straight line that has the highest gradient and it is more vertically inclined. Straight line OJ is the straight line that has the smallest gradient because it is more horizontally inclined.

- B** Garis lurus HI merupakan garis lurus yang mempunyai kecerunan paling besar kerana menghampiri keadaan mencancang. Garis lurus KL merupakan garis lurus yang mempunyai kecerunan paling kecil kerana menghampiri keadaan mengufuk.

Straight line HI is the straight line that has the highest gradient and it is more vertically inclined. Straight line KL is the straight line that has the smallest gradient because it is more horizontally inclined.

- C** Garis lurus MN merupakan garis lurus yang mempunyai kecerunan paling besar kerana menghampiri keadaan mencancang. Garis lurus KL merupakan garis lurus yang mempunyai kecerunan paling kecil kerana menghampiri keadaan mengufuk.

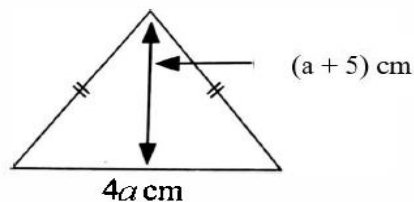
Straight line MN is the straight line that has the highest gradient and it is more vertically inclined. Straight line KL is the straight line that has the smallest gradient because it is more horizontally inclined.

- D** Garis lurus *HI* merupakan garis lurus yang mempunyai kecerunan paling besar kerana menghampiri keadaan mencancang. Garis lurus *OJ* merupakan garis lurus yang mempunyai kecerunan paling kecil kerana menghampiri keadaan mengufuk.

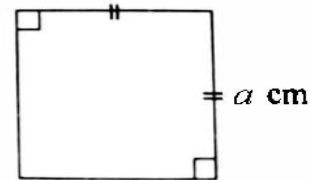
Straight line HI is the straight line that has the highest gradient and it is more vertically inclined. Straight line OJ is the straight line that has the smallest gradient because it is more horizontally inclined.

24. Rajah 12 menunjukkan sebuah segi tiga sama kaki dengan panjang tapak $4a$ cm dan tinggi $(a + 5)$ cm. Rajah 13 menunjukkan sebuah segi empat sama dengan panjang sisi a cm. Diberi luas segi tiga melebihi luas segi empat sama sebanyak 39 cm^2 .

Diagram 12 shows an isosceles triangle with a base length of $4a$ cm and a height $(a + 5)$ cm. Diagram 13 shows a square with length of the side a cm. Given the area of the triangle exceeding the area of the square by 39 cm^2 .



Rajah 12
Diagram 12



Rajah 13
Diagram 13

Hitung beza perimeter bagi kedua-dua rajah itu.

Calculate the difference of perimeter for both diagrams.

- A** 18
- B** 10
- C** 15
- D** 20

25. Titik P berada di rantau yang memuaskan sistem ketaksamaan linear $x > 0$, $y > 0$ dan $2x + y > 12$. Antara berikut yang manakah mungkin titik P itu?

Point P lies within the region that satisfies the systems of linear inequalities $x > 0$, $y > 0$ and $2x + y > 12$. Which of the following is possibly the point P?

- A (5,4)
- B (4,3)
- C (3,4)
- D (2,4)

26. Harga sehelai kemeja ialah RM35, manakala harga sehelai seluar ialah RM45. Diskaun sebanyak 15% diberikan pada harga sehelai kemeja manakala diskaun sebanyak 10% diberikan pada harga sehelai seluar. Tulis rumus jualan z , jika Syamsul ingin membeli x helai kemeja dan y helai seluar.

The price of a shirt is RM35, while the price of a pair of pants is RM45. A discount of 15% is given on the price of a shirt while a discount of 10% is given on the price of a pair of trousers. Write the z sales formula, if Syamsul wants to buy x shirts and y pants.

- A $z = x + y$
- B $z = 35x + 45y$
- C $z = (0.15)35x + (0.10)45y$
- D $z = (0.85)35x + (0.90)45y$

27. 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 pembesar suara dengan kuasa 100 W dan voltan 240 V menggunakan arus elektrik 1 A. Hitung arus elektrik yang digunakan oleh televisyen dengan kuasa 120 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 a speaker with 100 W of power and 240 V of voltage uses an electric current of 1 A. Calculate the electric current used by the television with 120 W of power and 240 V of voltage.

- A 2.4 A
- B 2.0 A
- C 1.4 A
- D 1.2 A

28. Diberi persamaan matriks

Given the matrix equation

$$\begin{pmatrix} p & 4 \\ 1 & 4 \end{pmatrix} - 3 \begin{pmatrix} -1 & 2 \\ 3 & -1 \end{pmatrix} = \frac{1}{q} \begin{pmatrix} 5 & -2 \\ -8 & 7 \end{pmatrix}$$

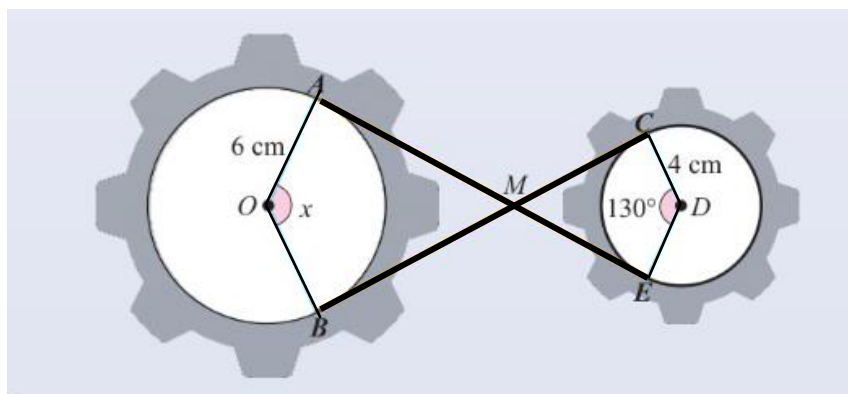
Cari nilai $p + q$

Find the values of $p + q$

- A** 2
- B** 3
- C** 4
- D** 5

29. Rajah 14 di bawah menunjukkan sebahagian daripada sistem gear pada suatu mesin. Rantai lurus AE dan BC bertemu pada kedua-dua gear pada titik-titik A, B, C dan E. Gear-gear itu berbentuk bulat dengan pusat-pusat O dan D, masing-masing. Diberi bahawa $OA=6\text{cm}$, $DC=4\text{cm}$ dan sudut $CDE=130^\circ$.

The diagram below shows part of the gear system on a machine. The straight line AE and BC meet the two gears at points A, B, C and E. The gears are circular with centers O and D, respectively. Given that $OA = 6\text{cm}$, $DC = 4\text{cm}$ and angle $CDE=130^\circ$.



Rajah 14
Diagram 14

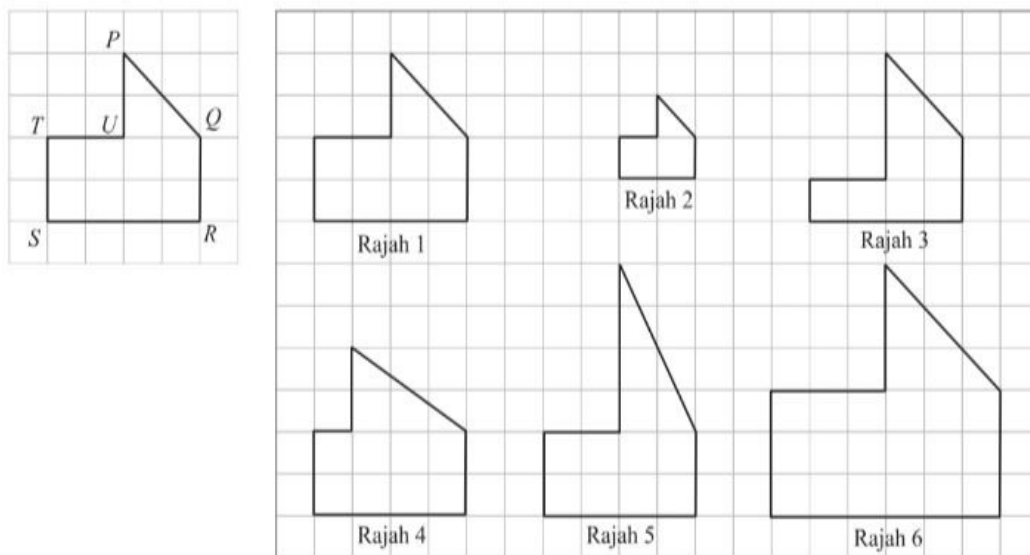
Hitung panjang OD dalam cm, betul kepada 4 angka bererti.

Calculate the OD length in cm, correct to 4 significant figures

- A** 14.19
- B** 9.465
- C** 23.66
- D** 23.68

30. Rajah 15 di bawah menunjukkan lukisan yang mewakili objek $PQRSTU$ yang dilukis dengan saiz yang berbeza.

The Diagram 15 below shows the drawings that representing object $PQRSTU$ drawn to different sizes.



Rajah 15
Diagram 15

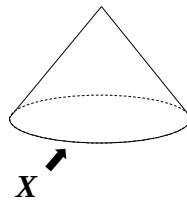
Nyatakan rajah yang merupakan lukisan berskala bagi objek $PQRSTU$.

State the diagram which is the scale drawing of object $PQRSTU$.

- A** Rajah 1, Rajah 2 dan Rajah 3
Diagram 1, Diagram 2 and Diagram 3.
- B** Rajah 1, Rajah 2 dan Rajah 4
Diagram 1, Diagram 2 and Diagram 4.
- C** Rajah 1, Rajah 2 dan Rajah 5
Diagram 1, Diagram 2 and Diagram 5.
- D** Rajah 1, Rajah 2 dan Rajah 6
Diagram 1, Diagram 2 and Diagram 6

31. Rajah 16 menunjukkan sebuah kon tegak.

Diagram 16 shows a right con.

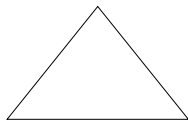


Rajah 16
Diagram 16

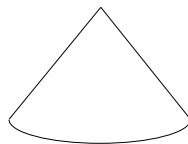
Antara yang berikut, yang manakah ialah unjuran ortogon bagi kon itu pada satah mencancang sebagaimana dilihat dari arah *X*.

*Which of the following is the orthogonal projection of the cone on a vertical plane as viewed from *X*.*

A



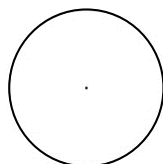
B



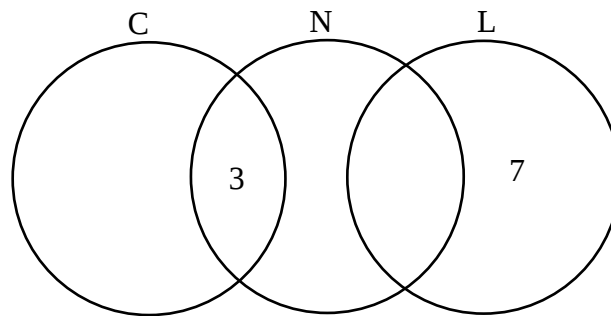
C



D



32. Rajah 17 di bawah menunjukkan Gambar rajah Venn bagi bilangan murid dalam suatu kelas dan makanan kegemaran mereka, nasi lemak (N), roti canai (C) dan laksa (L). Semua murid suka sekurang-kurangnya satu daripada tiga jenis makanan. 20 orang murid suka nasi lemak, 8 orang murid suka roti canai dan 12 orang murid suka laksa. *Diagram 17 below shows the Venn Diagram of the number of students in a class and their favorite foods, nasi lemak (N), roti canai (C) and laksa (L). All students like at least one of the three types of food. 20 students like nasi lemak, 8 students like roti canai and 12 students like laksa.*



Rajah 17
Diagram 17

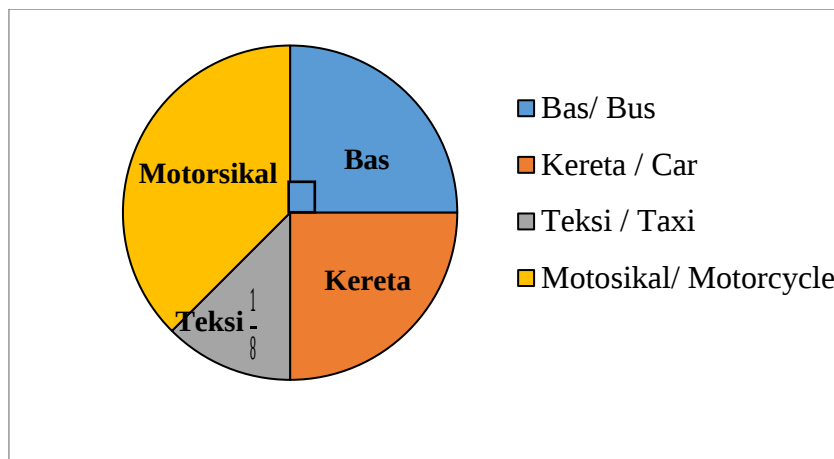
Cari bilangan murid di dalam kelas itu.

Find the number of students in the class.

- A 32
- B 38
- C 40
- D 46

33. Carta pai dalam Rajah 17 menunjukkan jenis pengangkutan yang digunakan oleh murid ke sekolah pada setiap hari.

The pie chart in Diagram 17 shows the types of transportation that students take to school every day



Rajah 17
Diagram 17

Bilangan murid yang menaiki bas ke sekolah adalah sama dengan bilangan murid yang menaiki kereta ke sekolah. Bilangan murid yang menggunakan perkhidmatan teksi ialah 18. Cari bilangan murid yang menaiki motosikal ke sekolah.

The number of students who take the bus to school is the same as the number of students who take car to school. The number of students who take the taxi is 18. Find the number of students who take the motorcycle to school.

- A 18
- B 27
- C 54
- D 81

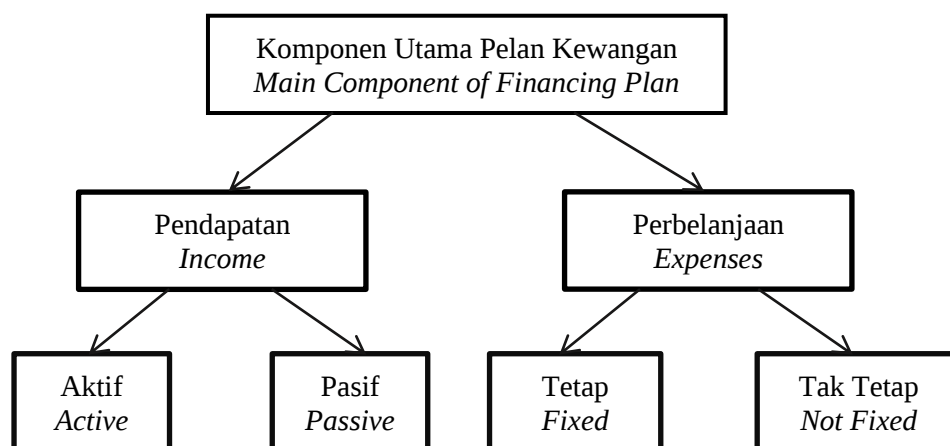
34. Sebuah kotak mengandungi 4 batang pen kuning, 6 batang pen merah dan 2 batang pen hitam. Dua batang pen dipilih secara rawak dari kotak. Hitungkan kebarangkalian bahawa kedua-dua batang pen yang dipilih berwarna sama

A box contains 4 yellow pens, 6 red pens and 2 black pens. Two pens are randomly selected from the box. Calculate the probability that the two-pen selected are the same color

- A $\frac{2}{7}$
 B $\frac{3}{5}$
 C $\frac{4}{5}$
 D $\frac{1}{3}$

35. Rajah 18 di bawah menunjukkan komponen utama pelan kewangan.

Diagram 18 shows the main component of financing plan.



Rajah 18
Diagram 18

Pilih padanan pelan kewangan yang betul.

Choose the correct matching of financing plan.

- | | | | |
|---|--|---|---|
| A | Pendapatan Aktif
Active Income | ➡ | Sewa,dividen,faedah
Rental income,dividend,interest |
| B | Pendapatan Pasif
Passive Income | ➡ | Gaji,elaun.komisyen
Salary,allowance,commission |
| C | Perbelanjaan Tetap
Fixed Expenses | ➡ | Ansuran rumah,insurans
House installment,insurance |
| D | Perbelanjaan Tak Tetap
Not Fixed Expenses | ➡ | Ansuran kereta,sewa rumah
Car installment,house rental |

36. Adam telah membeli sejag jus oren dan menuangkan sama rata ke dalam tiga biji gelas berbentuk silinder hingga 80% penuh. Diberi bahawa jejari dan tinggi gelas itu masing-masing ialah 0.03m dan 14 cm, hitung isi padu, dalam cm^3 , jus oren dalam sebiji gelas.

Adam bought a jug of orange juice and equally filled up three cylindrical glasses up to 80%. Given that the radius and height of the cylindrical glass are 0.03 m and 14 cm respectively, calculate the volume, in cm^3 , of orange juice in a glass.

[Guna / Use $\pi = \frac{22}{7}$]

- A 1 188
B 950.4
C 316.8
D 396

37. Siti dan Aishah ialah kerani di sebuah syarikat. Jadual 1 di bawah menunjukkan senarai tempahan alat tulis mereka.

Siti and Aishah are clerks in a company. The Table 1 below shows the stationery order list of them.

	Pen	Fail File	Pengokot Stapler
Siti	30	15	4
Aishah	25	20	5

Jadual 1
Table 1

Diberi sebatang pen berharga RM 1.20, sebuah fail berharga RM 4.00 dan sebuah pengokot berharga RM 6.00. Antara berikut, yang manakah betul bagi jumlah bayaran, dalam RM, yang perlu dibuat oleh Siti dan Aishah?

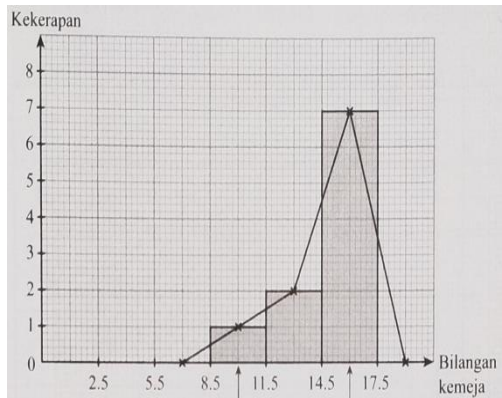
It is given that a pen costs RM1.20, a file costs RM 4.00 and a stapler costs RM 6.00. Which of the following is the correct total payment, in RM, to be made by Siti and Aishah?

- A $\begin{bmatrix} 140 \\ 120 \end{bmatrix}$
B $\begin{bmatrix} 120 \\ 140 \end{bmatrix}$
C [120 140]
D [140 120]

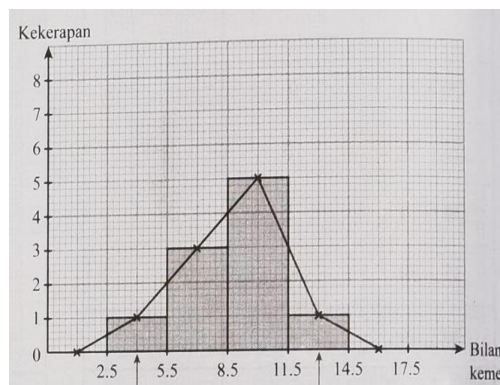
38. Gambar rajah manakah yang mempunyai taburan pencong ke kanan?

Which of the following diagram represent right-skewed distribution?

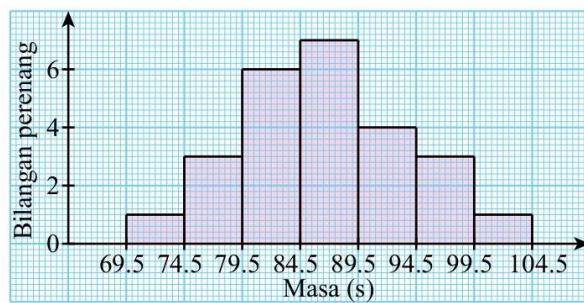
A



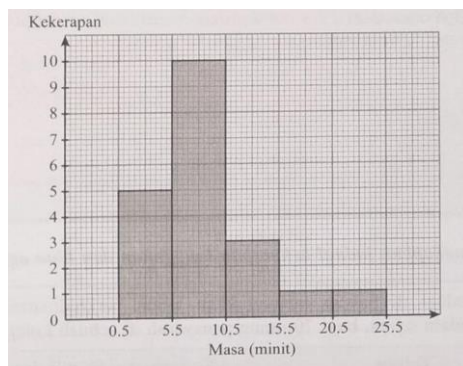
B



C



D



39. Yang manakah antara berikut bukan mewakili nombor dalam asas enam?

Which of the following does not represent a number in base six?

- A 245
- B 332
- C 371
- D 123

40. Puan Amira mempunyai polisi Insuran perubatan utama dengan memperuntukan deduktibel sebanyak RM600 dan fasal penyertaan peratusan ko-insuran 75/25 dalam polisinya.

Hitung bayaran kos yang ditanggung oleh Puan Amira sendiri jika kos perubatan yang melindungi polisinya berjumlah RM 21 700.

Puan Amira has a primary medical insurance policy with a deductible of RM600 and a 75/25 co-insurance percentage participation clause in her policy.

Calculate the cost payment borne by Puan Amira herself if the medical costs covered by her policy amount to RM 21 700.

- A RM 15825
- B RM 16275
- C RM 5425
- D RM 5875

KERTAS SOALAN TAMAT
END OF QUESTION PAPER

