

1449/1  
Matematik  
Kertas 1  
Okt /Nov 2023  
 $1\frac{1}{2}$  jam



MAJLIS PENGETUA SEKOLAH MALAYSIA  
NEGERI SEMBILAN

PROGRAM PENINGKATAN AKADEMIK TINGKATAN 5  
SEKOLAH-SEKOLAH MENENGAH NEGERI SEMBILAN 2023

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MATEMATIK

Kertas 1

Satu jam tiga puluh minit

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**JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIBERITAHU**

1. *Kertas peperiksaan ini mengandungi 40 soalan.*
2. *Jawab semua soalan.*
3. *Bagi setiap soalan, pilih satu jawapan sahaja. Hitamkan jawapan anda pada kertas jawapan objektif yang disediakan.*
4. *Kertas soalan ini adalah dalam dwibahasa.*
5. *Rajah yang mengiringi soalan tidak dilukis mengikut skala kecuali dinyatakan.*
6. **Kertas jawapan objektif** hendaklah diserahkan kepada pengawas peperiksaan pada akhir peperiksaan.

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Kertas soalan ini mengandungi 29 halaman bercetak dan 3 halaman tidak bercetak

**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  $a^{\frac{1}{n}} = \sqrt[n]{a}$

5  $a^{\frac{m}{n}} = (a^m)^{\frac{1}{n}} = (a^{\frac{1}{n}})^m$

6  $a^{\frac{m}{n}} = \sqrt[n]{a^m} = (\sqrt[n]{a})^m$

7 Faedah mudah / *Simple interest*,  
 $I = Prt$

8 Nilai Matang / *Maturity Value*,  
 $MV = P \left( 1 + \frac{r}{n} \right)^{nt}$

9 Jumlah bayaran balik / *Total repayment*,  $A = P + Prt$

Premium =  $\frac{\text{Nilai muka polisi}}{\text{RMx}} \times (\text{Kadar premium per RMx})$

10  $\text{Premium} = \frac{\text{Face value of policy}}{\text{RMx}} \times (\text{Premium rate per RMx})$

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

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

**PERKAITAN  
RELATIONS**

1 Jarak / *Distance* =  $\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$

2 Titik Tengah / *midpoint*  
 $(x, y) = \left( \frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$

Laju purata =  $\frac{\text{Jumlah jarak}}{\text{Jumlah masa}}$

3  $\text{Average speed} = \frac{\text{Total distance}}{\text{Total time}}$

4  $m = \frac{y_2 - y_1}{x_2 - x_1}$

5  $A^{-1} = \frac{1}{ad - bc} \begin{pmatrix} d & -b \\ -c & a \end{pmatrix}$

6  $m = -\frac{\text{pintasan-y}}{\text{pintasan-x}}$   
 $m = -\frac{\text{y-intercept}}{\text{x-intercept}}$

**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 =  $\pi j^2$   
*Area of circle* =  $\pi r^2$   
$$\frac{\text{Panjang lengkok}}{2\pi j} = \frac{\theta}{360^\circ}$$
- 5 
$$\frac{\text{Arc length}}{2\pi} = \frac{\theta}{360^\circ}$$
- 6 
$$\frac{\text{Luas sektor}}{\pi j^2} = \frac{\theta}{360^\circ}$$
  
$$\frac{\text{Area of sector}}{\pi j^2} = \frac{\theta}{360^\circ}$$
- 7 Luas lelayang =  $\frac{1}{2} \times$  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 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 Isipadu prisma tegak = luas keratan rentas  $\times$  tinggi  
*Volume of right prism* = *cross sectional area*  $\times$  *height*
- 13 Isipadu silinder =  $\pi j^2 t$   
*Volume of cylinder* =  $\pi r^2 h$

- 14 Isipadu kon =  $\frac{1}{3}\pi r^2 h$   
*Volume of cone* =  $\frac{1}{3}\pi r^2 h$
- 15 Isipadu sfera =  $\frac{4}{3}\pi r^3$   
*Volume of sphere* =  $\frac{4}{3}\pi r^3$
- 16 Isipadu piramid tegak =  $\frac{1}{3} \times \text{luas tapak} \times \text{tinggi}$   
*Volume of right 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,  $\bar{x} = \frac{\sum fx}{f}$
- 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  $P(A') = 1 - P(A)$

Jadual: Kadar Cukai Pendapatan Individu untuk Tahun Taksiran 2020

Banjaran Pendapatan Bercukai (RM)	Pengiraan (RM)	Kadar (%)	Cukai (RM)
0 - 5 000	5 000 pertama	0	0
5 001 - 20 000	5 000 pertama 15 000 berikutnya	1	0 150
20 001 - 35 000	20 000 pertama 15 000 berikutnya	3	150 450
35 001 - 50 000	35 000 pertama 15 000 berikutnya	8	600 1 200
50 001 - 70 000	50 000 pertama 20 000 berikutnya	14	1 800 2 800
70 001 - 100 000	70 000 pertama 30 000 berikutnya	21	4 600 6 300
100 001 - 250 000	100 000 pertama 150 000 berikutnya	24	10 900 36 000
250 001 - 400 000	250 000 pertama 150 000 berikutnya	24.5	46 900 36 750
400 001 - 600 000	400 000 pertama 200 000 berikutnya	25	83 650 50 000
600 001 - 1 000 000	600 000 pertama 400 000 berikutnya	26	133 650 104 000
1 000 001 - 2 000 000	1 000 000 pertama 1 000 000 berikutnya	28	237 650 280 000
Melebihi 2 000 000	2 000 000 pertama Setiap ringgit berikutnya	30	517 650 ...

\* Tertakluk kepada perubahan dari semasa ke semasa.

(Sumber: Portal Rasmi Lembaga Hasil Dalam Negeri Malaysia)

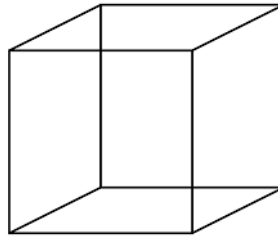
Kapasiti enjin tidak melebihi (cc)	Semenanjung Malaysia		Sabah dan Sarawak	
	Polisi komprehensif (RM)	Polisi pihak ketiga (RM)	Polisi komprehensif (RM)	Polisi pihak ketiga (RM)
1 400	273.80	120.60	196.20	67.50
1 650	305.50	135.00	220.00	75.60
2 200	339.10	151.20	243.90	85.20
3 050	372.60	167.40	266.50	93.60
4 100	404.30	181.80	290.40	101.70
4 250	436.00	196.20	313.00	110.10
4 400	469.60	212.40	336.90	118.20
Melebihi 4 400	501.30	226.80	359.50	126.60

\* Bagi polisi komprehensif, kadar yang dikenakan adalah bagi RM1 000 pertama daripada jumlah yang diinsuranskan

Sumber: Jadual Tarif Motor 2015

- 1 Rajah 1 menunjukkan sebuah kubus.

*Diagram 1 shows a cube.*



Rajah 1  
Diagram 1

Diberi bahawa isipadu kubus itu ialah  $729 \text{ m}^3$ . Hitung luas, dalam  $\text{cm}^2$ , bentangan kubus itu dalam bentuk piawai.

*Given that the volume of the cube is  $729 \text{ m}^3$ . Calculate the area, in  $\text{cm}^2$ , the net of the cube in standard form.*

- A  $4.86 \times 10^2$   
B  $4.86 \times 10^6$   
C  $4.37 \times 10^3$   
D  $4.37 \times 10^7$

- 2 Ungkapkan  $\frac{m-4}{m+1} \div \frac{m^2-3m-4}{m^2-1}$  sebagai satu pecahan tunggal dalam bentuk termudah.

*Express  $\frac{m-4}{m+1} \div \frac{m^2-3m-4}{m^2-1}$  as a single fraction in simplest form.*

- A  $\frac{2m}{m+1}$   
B  $\frac{m}{m-4}$   
C  $\frac{m-4}{m-1}$   
D  $\frac{m-1}{m+1}$

- 3 Diberi bahawa  $\sqrt{\frac{3+p}{p+q}} = r$ , ungkapkan  $p$  dalam sebutan  $q$  dan  $r$ .

Given that  $\sqrt{\frac{3+p}{p+q}} = r$ , express  $p$  in terms of  $q$  and  $r$ .

A  $p = \frac{r^2q - 3}{1 - r^2}$

B  $p = \frac{rq - 3}{1 - r^2}$

C  $p = \frac{rq - 3}{1 - r}$

D  $p = \frac{q - 3}{1 - r}$

- 4 Mumtaz mempunyai sebidang permaidani berbentuk poligon sekata. Saiz sudut pedalaman permaidani itu adalah  $\frac{7}{2}$  daripada saiz sudut peluarannya.

Cari bilangan sisi permaidani tersebut.

*Mumtaz has a piece of carpet in the shape of a regular polygon. The size of the interior angle of the carpet is  $\frac{7}{2}$  of the size of the exterior angle.*

*Find the number of sides of the carpet.*

A 7

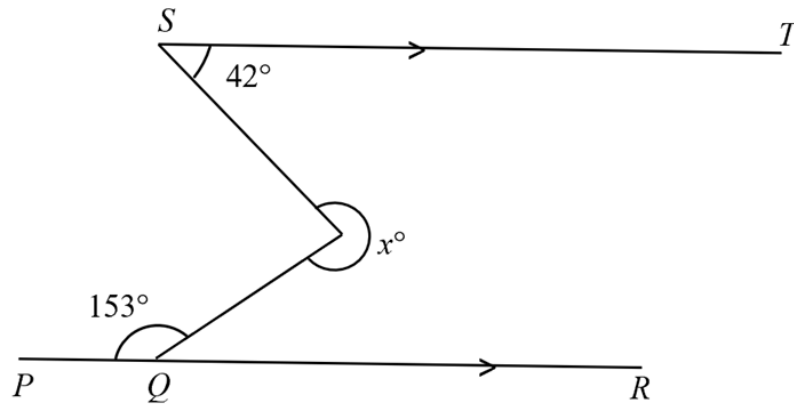
B 8

C 9

D 10

- 5 Dalam Rajah 2 di bawah,  $PQR$  ialah suatu garis lurus dan garis  $ST$  adalah selari dengan garis  $PQR$ .

*In Diagram 2 below,  $PQR$  is a straight line and line  $ST$  is parallel to line  $PQR$ .*



Rajah 2  
Diagram 2

Cari nilai  $x$ .

*Find the value of  $x$ .*

- A  $195^\circ$   
 B  $235^\circ$   
 C  $275^\circ$   
 D  $291^\circ$
- 6 Ringkaskan.

*Simplify.*

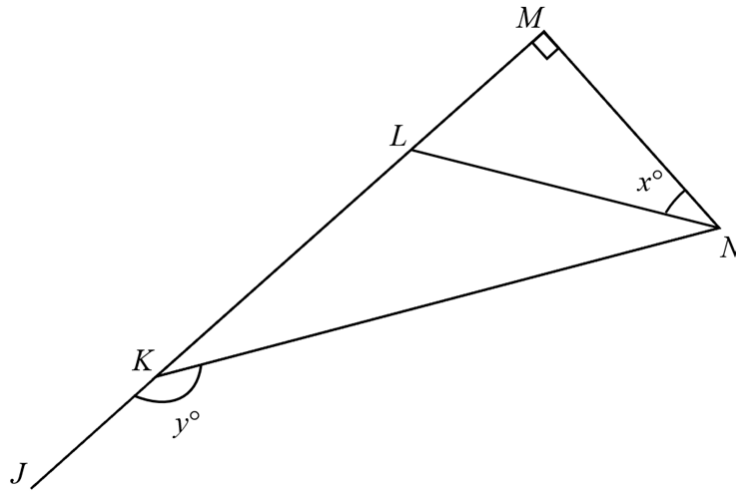
$$\left(\frac{16}{y^8}\right)^{\frac{1}{4}} \times y^{-3}$$

- A  $\frac{2}{y^5}$   
 B  $\frac{4}{y^5}$   
 C  $2y^5$   
 D  $4y^5$



7 Dalam Rajah 3 di bawah,  $JKLM$  ialah garis lurus.

*In Diagram 3 below,  $JKLM$  is a straight line.*



Rajah 3  
Diagram 3

Diberi bahawa  $\cos x^\circ = \frac{1}{\sqrt{5}}$  dan  $LM : KL = 1 : 2$ .

Cari  $\tan y^\circ$ .

*Given that  $\cos x^\circ = \frac{1}{\sqrt{5}}$  and  $LM : KL = 1 : 2$ .*

*Find  $\tan y^\circ$ .*

- A  $\frac{1}{\sqrt{37}}$
- B  $-\frac{1}{5}$
- C  $-\frac{1}{6}$
- D  $-\frac{6}{\sqrt{37}}$

- 8 Izzudin membuat pinjaman peribadi sebanyak RM85 000 daripada Bank Bumi dengan kadar faedah yang sama rata sebanyak  $x$  % setahun. Jika bayaran bulanan yang dibayar oleh Izzudin ialah RM1 593.75 sebulan selama 5 tahun, berapakah kadar faedah yang ditawarkan oleh pihak bank tersebut?

*Izzudin made a personal loan of RM85 000 from Bank Bumi with an equal interest rate of  $x$  % per annum. If the monthly payment paid by Izzudin is RM1 593.75 per month for 5 years, what is the interest rate offered by the bank?*

- A 2.3%  
B 2.5%  
C 2.7%  
D 3.0%
- 9 Set data di bawah menunjukkan mata yang dipungut dalam satu pertandingan kuiz.  
*The data set below shows the points collected in a quiz competition.*

$(3x + 8)$ , 3, $(2 + x)$ , 4, $5x$ , 10
--

Diberi bahawa min bagi data tersebut ialah 10.5.

Hitung hasil tambah median dan mod.

*Given that the mean of the data is 10.5.*

*Calculate the sum of the median and the mode.*

- A 28  
B 29  
C 30  
D 31

10 Diberi  $\begin{pmatrix} x \\ 3 \end{pmatrix} \begin{pmatrix} 2 & y \end{pmatrix} = \begin{pmatrix} 12 & 18 \\ 6 & 9 \end{pmatrix}$ . Nilai bagi  $y - x$  ialah

Given  $\begin{pmatrix} x \\ 3 \end{pmatrix} \begin{pmatrix} 2 & y \end{pmatrix} = \begin{pmatrix} 12 & 18 \\ 6 & 9 \end{pmatrix}$ . The value of  $y - x$  is

A  $-6$

B  $-3$

C  $3$

D  $6$

11 Diberi bahawa  $\tan y = \frac{8}{15}$  dan  $y$  ialah sudut refleks. Cari nilai  $\sin y$ .

Given  $\tan y = \frac{8}{15}$  and  $y$  is reflex angle. Find the value of  $\sin y$ .

A  $\frac{8}{17}$

B  $\frac{15}{17}$

C  $-\frac{8}{17}$

D  $-\frac{15}{17}$

12 Diberi  $r \propto s$  dan  $s = 2t + 1$ . Jika  $r = 6$  apabila  $t = 4$ , ungkapkan  $r$  dalam sebutan  $s$ .

Given  $r \propto s$  and  $s = 2t + 1$ . If  $r = 6$  when  $t = 4$ , express  $r$  in terms of  $s$ .

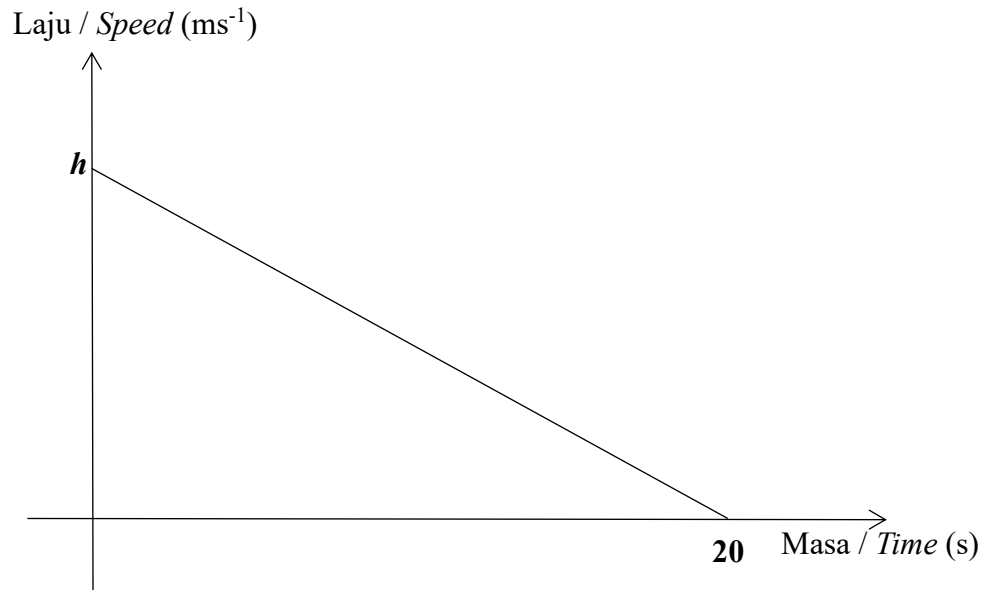
A  $r = \frac{3}{2}s$

B  $r = \frac{2}{3}s$

C  $r = 6s$

D  $r = 3s$

- 13 Rajah 4 menunjukkan graf laju-masa bagi perjalanan Sofee dari rumahnya ke pusat dobi.  
*Diagram 4 shows the speed-time graph of Sofee's journey from her home to the laundry center.*



Rajah 4  
*Diagram 4*

Jika keretanya mengalami nyahpecutan  $0.6 \text{ ms}^{-2}$ , hitungkan nilai  $h$ .  
*If the car experiences a deceleration of  $0.6 \text{ ms}^{-2}$ , calculate the value of  $h$ .*

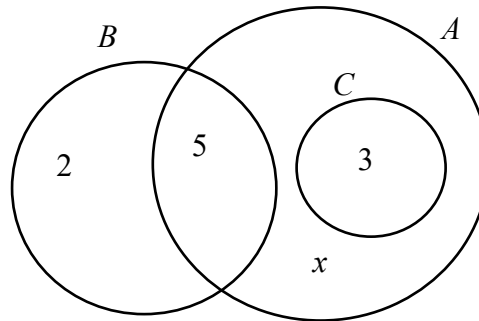
- A     -6  
B     6  
C     12  
D     -12

- 14 Aireen membeli 5 bungkus nasi lemak yang kesemuanya berharga RM15 di warung Mak Timah. Di dalam dompetnya terdapat 3 keping wang kertas RM10, 5 keping wang kertas RM5 dan 5 keping wang kertas RM1. Dia memilih dua keping wang kertas di dalam dompetnya secara rawak satu demi satu untuk membayar nasi lemak tersebut. Cari kebarangkalian bahawa dia membayar jumlah bayaran nasi lemak itu dengan tepat.

*Aireen bought 5 packs of nasi lemak, all of which cost RM15 at Mak Timah's expense. In her wallet were 3 pieces of RM10 notes, 5 pieces of RM5 notes and 5 pieces of RM1 notes. She picked two banknotes in her wallet at random one after the other to pay for the nasi lemak. Find the probability that she pays the exact amount of nasi lemak.*

- A  $\frac{7}{26}$
- B  $\frac{5}{26}$
- C  $\frac{2}{13}$
- D  $\frac{1}{13}$

- 15 Gambar rajah Venn di bawah menunjukkan bilangan unsur dalam set  $A$ , set  $B$  dan set  $C$ .  
*The Venn diagram below shows the number of elements in set  $A$ , set  $B$  and set  $C$ .*



Rajah 5  
 Diagram 5

Diberi set semesta,  $\xi = A \cup B \cup C$  dan  $n(\xi) = 16$ . Cari nilai  $n(B')$

*It is given that the universal set  $\xi = A \cup B \cup C$  and  $n(\xi) = 16$ . Find the value of  $n(B')$*

- A** 3  
**B** 6  
**C** 9  
**D** 14
- 16 Pendapatan bercukai bagi tahun 2022 Airil ialah RM78 320. PCB bulanannya adalah sebanyak RM350 dan bayaran zakatnya bagi tahun yang sama adalah RM450. Hitung bayaran baki cukai pendapatan yang perlu dibayar oleh Airil.  
*Airil's taxable income for the year 2022 is RM78 320. His monthly PCB is as much as RM350 and his zakat payment for the same year is RM450. Calculate the remaining income tax payment to be paid by Airil.*
- A** RM6347.20  
**B** RM2147.20  
**C** RM1697.20  
**D** RM947.20

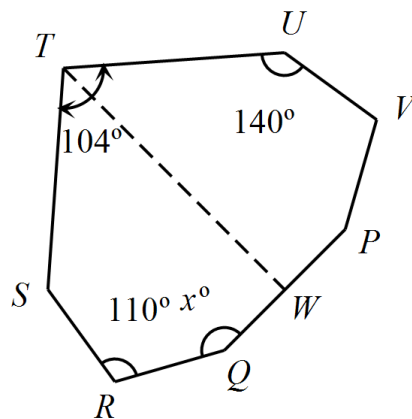
- 17 Antara faktor berikut, yang manakah paling mempengaruhi premium yang dibayar bagi insurans hayat?

*Which of the following factors will effect the premium paid for life insurance?*

- A Bangsa  
*Race*
- B Pendapatan  
*Income*
- C Jantina  
*Gender*
- D Umur  
*Age*

- 18 Dalam Rajah 6,  $PQRSTUV$  ialah sebuah poligon.  $TW$  ialah garis simetri poligon itu.

*In Diagram 6,  $PQRSTUV$  is a polygon.  $TW$  is the line of symmetry of the polygon.*



Rajah 6  
Diagram 6

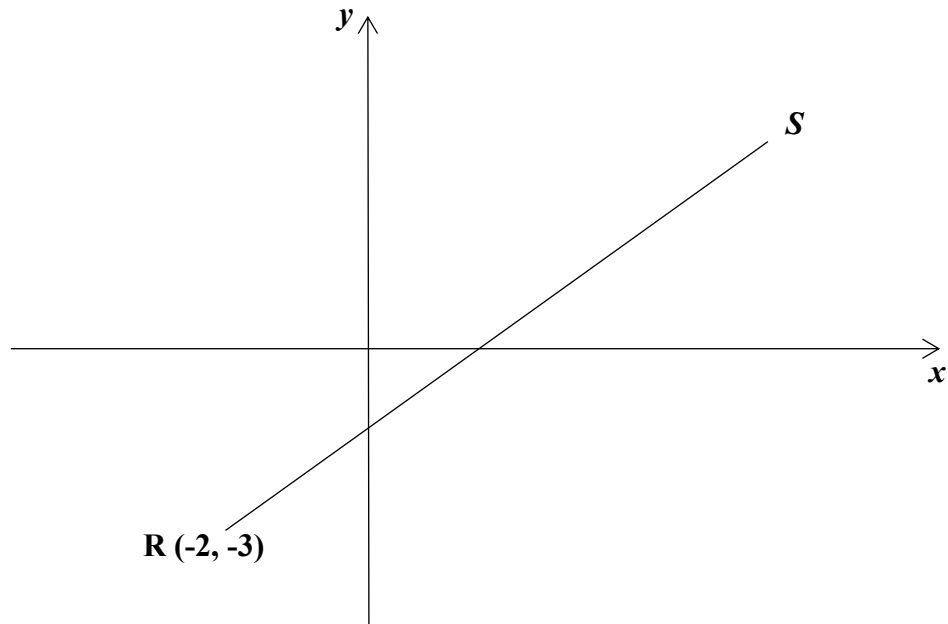
Nilai  $x$  ialah

*The value of  $x$  is*

- A 138
- B 143
- C 148
- D 153

- 19 Rajah 7 menunjukkan garis lurus  $RS$  yang dilukis pada satah Cartes.

*Diagram 7 shows a straight line  $RS$  drawn on a Cartesian plane.*



Rajah 7  
Diagram 7

Kecerunan bagi  $RS$  ialah  $\frac{3}{5}$ . Cari pintasan- $x$  bagi garis lurus  $RS$ .

*The gradient of  $RS$  is  $\frac{3}{5}$ . Find the  $x$ -intercept of the straight line  $RS$ .*

- A 0
- B 1
- C 2
- D 3



- 20 Jadual 1 menunjukkan jenis majalah yang dibeli oleh sesetengah pelanggan di sebuah kedai buku.

*Table 1 shows the types of magazine bought by some customers in a bookshop.*

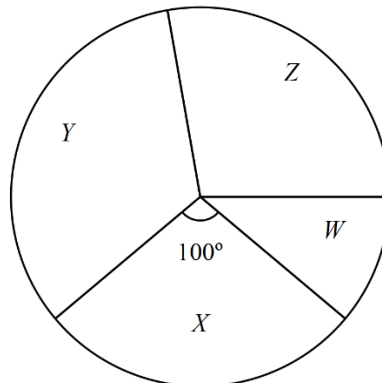
<b>Majalah</b> <i>Magazine</i>	<b>Bilangan naskah</b> <i>Number of copies</i>
Hiburan <i>Entertainment</i>	10
Sukan <i>Sport</i>	25
Kereta <i>Automobile</i>	32
Fesyen <i>Fashion</i>	23

Jadual 1

*Table 1*

Rajah 8 ialah satu carta pai yang mewakili semua maklumat.

*Diagram 8 is a pie chart represented all the information.*



Rajah 8

*Diagram 8*

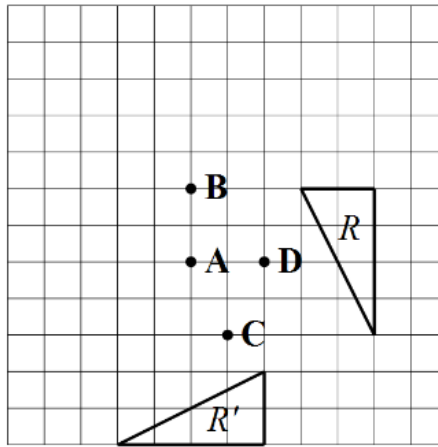
Jenis majalah yang diwakili oleh sektor *X* ialah

*The type of magazine that is represented by the sector X is*

- A** Hiburan  
*Entertainment*
- B** Sukan  
*Sport*
- C** Kereta  
*Automobile*
- D** Fesyen  
*Fashion*

- 21 Rajah 9 menunjukkan segi tiga yang dilukis pada petak-petak segi empat sama. Segi tiga  $R'$  ialah imej bagi segi tiga  $R$  di bawah suatu putaran.

*Diagram 9 shows triangles drawn on square grids. Triangle  $R'$  is the image of triangle  $R$  under a certain rotation.*



Rajah 9  
Diagram 9

Antara titik-titik **A**, **B**, **C** dan **D**, yang manakah pusat bagi putaran ini?

*Which of the points **A**, **B**, **C** and **D** is the centre of the rotation?*

- 22 Antara berikut, yang manakah mewakili penyelesaian bagi ketaksamaan linear

$$-10 \leq 2 - y < -8?$$

*Which of the following represents the solution for the linear inequality*

$$-10 \leq 2 - y < -8?$$

- A
- B
- C
- D

- 23 Faktorkan  $54s^2 - 24$  dengan lengkapnya.

*Factorise  $54s^2 - 24$  completely.*

- A  $-6(3s - 2)(3s - 2)$   
B  $-6(3s + 2)(3s - 2)$   
C  $6(3s - 2)(3s + 2)$   
D  $6(3s + 2)(3s + 2)$

- 24 Jadual 2 ialah sebuah jadual kekerapan yang menunjukkan jisim durian, dalam kg, yang telah dijual oleh 24 buah kedai buah-buahan.

*Table 2 is a frequency table which shows the mass of durians, in kg, sold by 24 fruit stalls.*

<b>Jisim durian yang telah dijual (kg)</b> <i>Mass of durians sold (kg)</i>	<b>Kekerapan</b> <i>Frequency</i>
90 – 94	7
95 – 99	5
100 – 104	1
105 – 109	9
110 – 114	2

Jadual 2

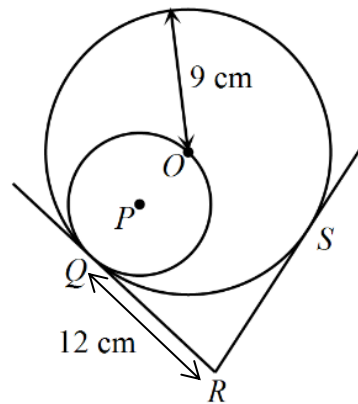
*Table 2*

Hitung min jisim, dalam kg, durian yang telah dijual oleh sebuah kedai buah-buahan.

*Calculate the mean mass, in kg, of durians sold by a fruit stall.*

- A 95.75  
B 100.75  
C 115.75  
D 120.75

- 25 Dalam Rajah 10,  $QR$  dan  $RS$  ialah tangen bagi dua bulatan masing-masing.  
*In Diagram 10,  $QR$  and  $RS$  are two tangents to the circle with centre  $O$ .*



Rajah 10  
Diagram 10

Cari jarak, dalam cm, di antara pusat  $O$  dan titik  $R$ .

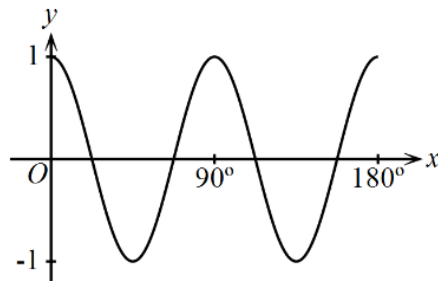
*Find the distance, in cm, between centre  $O$  and the point  $R$ .*

- A 6
- B 15
- C 24
- D 33

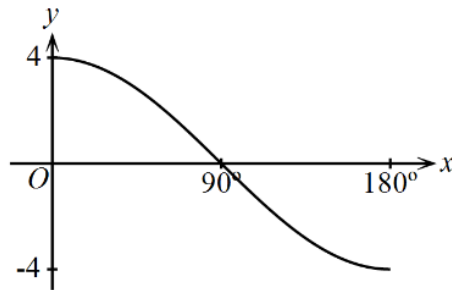
26 Antara yang berikut, yang manakah mewakili graf  $y = \sin 4x^\circ$  for  $0^\circ \leq x \leq 180^\circ$ ?

*Which of the following represents the graph of  $y = \sin 4x^\circ$  for  $0^\circ \leq x \leq 180^\circ$ ?*

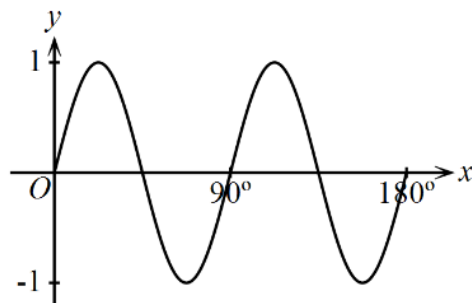
A



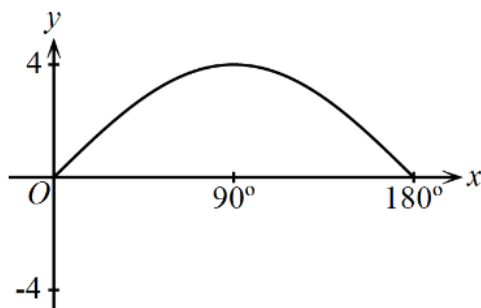
B



C



D



- 27 Jadual 3 menunjukkan bilangan guru matematik lelaki dan guru matematik perempuan di sekolah *M* dan sekolah *N*.

*Table 3 shows the number of male and female Mathematics teachers in school M and school N.*

	<b>Sekolah <i>M</i></b> <b><i>School M</i></b>	<b>Sekolah <i>N</i></b> <b><i>School N</i></b>
<b>Lelaki</b> <b><i>Male</i></b>	2	2
<b>Perempuan</b> <b><i>Female</i></b>	4	2

Jadual 3

*Table 3*

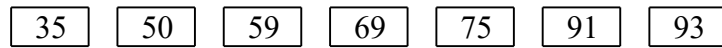
Jika seorang guru matematik dipilih secara rawak daripada kedua-dua buah sekolah itu, apakah kebarangkalian bahawa seorang guru matematik perempuan dari sekolah *N* akan dipilih?

*If a Mathematics teacher is chosen at random from the two schools, what is the probability that a female Mathematics teacher from school N will be chosen?*

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

- 28 Rajah 11 menunjukkan beberapa kad nombor.

*Diagram 11 shows some number cards.*



Rajah 11  
Diagram 11

Jika sekeping kad dipilih secara rawak, nyatakan kebarangkalian bahawa nombor ganjil dipilih.

*If a card is picked at random, state the probability that a odd number is picked.*

- A  $\frac{6}{7}$   
 B  $\frac{5}{7}$   
 C  $\frac{3}{7}$   
 D  $\frac{2}{7}$

- 29 Diberi  $(2x + 1)(x - 3) - 8x + 9 = 0$ , cari nilai  $x$ .

*Given  $(2x + 1)(x - 3) - 8x + 9 = 0$ , find the value of  $x$ .*

- A  $x = \frac{1}{2}, x = 6$   
 B  $x = -\frac{1}{2}, x = 6$   
 C  $x = -3, x = 2$   
 D  $x = -6, x = 1$

- 30 Senaraikan semua subset bagi set  $Q = \{ @, \cap \}$

*List all the subsets of set  $Q = \{ @, \cap \}$*

- A  $\{ @ \}, \{ \cap \}$   
 B  $\{ \}, \{ @ \}, \{ \cap \}$   
 C  $\{ \}, \{ @ \}, \{ @, \cap \}$   
 D  $\{ \}, \{ @ \}, \{ \cap \}, \{ @, \cap \}$

- 31 Lengkapi premis 1 dalam hujah berikut.

*Complete the premise 1 in the following argument.*

Premis 1/ Premise 1 : .....

Premis 2 :  $z^2 \neq 9$

*Premise 2 :  $z^2 \neq 9$*

Kesimpulan :  $z \neq 3$

*Conclusion :  $z \neq 3$*

A Jika  $z^2 \neq 9$ , maka  $z \neq 3$

*If  $z^2 \neq 9$ , then  $z \neq 3$*

B Jika  $z^2 = 9$ , maka  $z = 3$

*If  $z^2 = 9$ , then  $z = 3$*

C Jika  $z \neq 3$ , maka  $z^2 \neq 9$

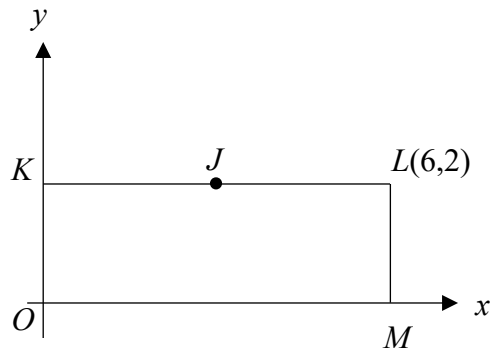
*If  $z \neq 3$ , then  $z^2 \neq 9$*

D Jika  $z = 3$ , maka  $z^2 = 9$

*If  $z = 3$ , then  $z^2 = 9$*



- 32 Dalam Rajah 12,  $OKLM$  ialah sebuah segi empat tepat dan  $J$  ialah titik tengah  $KL$ .  
*In Diagram 12,  $OKLM$  is a rectangle and  $J$  is a midpoint of  $KL$ .*



Rajah 12  
 Diagram 12

Cari persamaan garis lurus yang selari dengan garis lurus  $OL$  dan melalui titik  $J$ .  
*Find the equation of straight line that is parallel to the straight line  $OL$  and passes through point  $J$ .*

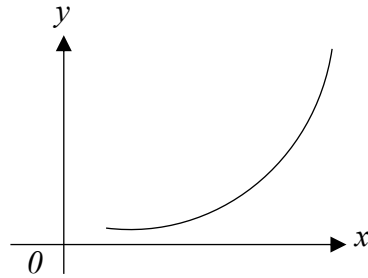
- A  $y = \frac{1}{3}x - 1$   
 B  $y = \frac{1}{3}x + 1$   
 C  $y = 3x - 1$   
 D  $y = 3x + 1$
- 33 Pilih nilai yang paling tinggi  
*Choose the highest value*

$1101101_2, 243_5, 273_{10}, 271_8$

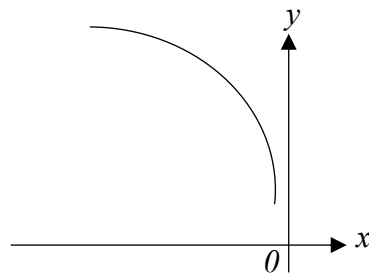
- A  $273_{10}$   
 B  $271_8$   
 C  $243_5$   
 D  $1101101_2$

- 34 Graf yang manakah mewakili sebahagian daripada graf  $xy = -7$ ?  
*Which graph represent part of the graph  $xy = -7$ ?*

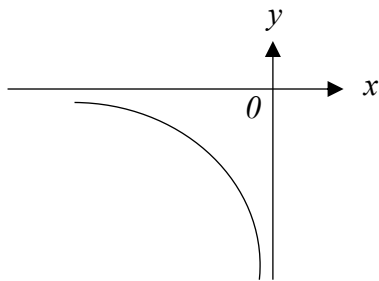
A



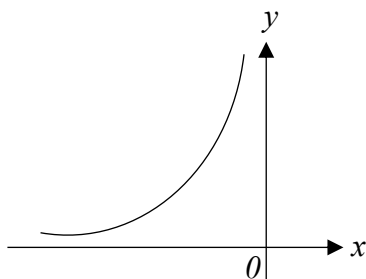
B



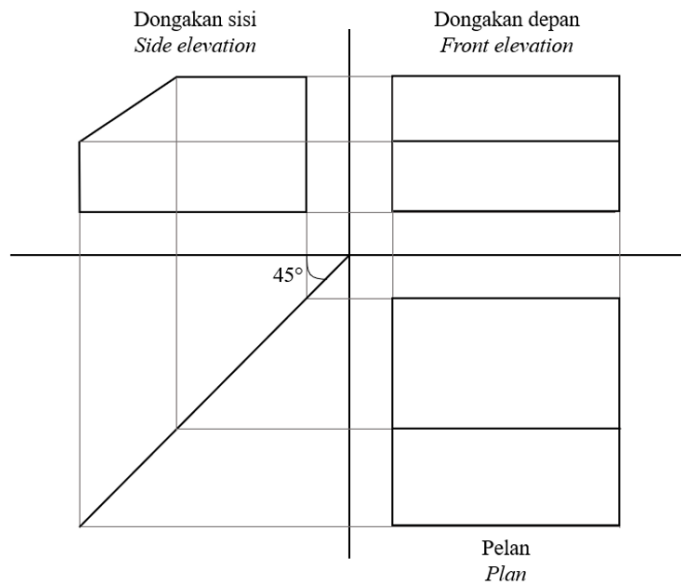
C



D



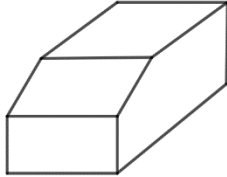
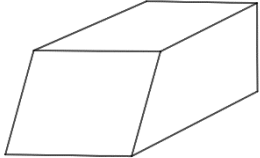
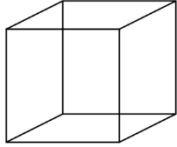
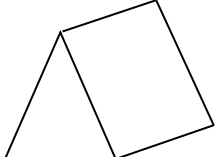
- 35 Rajah 13 menunjukkan pelan, dongakan depan dan dongakan sisi bagi sebuah bongkah.  
 Diagram 13 shows the plan, front elevation and side elevation of a solid.



Rajah 13

Diagram 13

Antara berikut, yang manakah menunjukkan bongkah yang betul ?  
 Which of the following shows the correct solid ?

- A 
- B 
- C 
- D 

- 36 Titik  $(3, -2)$  ialah imej titik  $T$  di bawah pantulan pada paksi- $x$ . Cari koordinat bagi titik  $T$ .

*Point  $(3, -2)$  is the image of point  $T$  under a reflection in the  $x$ -axis. Find the coordinates of point  $T$ .*

- A  $(-2, 3)$
- B  $(-3, 2)$
- C  $(2, 3)$
- D  $(3, 2)$

- 37 Nyatakan nilai digit 4 bagi nombor  $33421_5$  dalam asas dua.

*State the value of digit 4 in the number  $33421_5$  in base two.*

- A  $100_2$
- B  $1000_2$
- C  $1100100_2$
- D  $1110100_2$

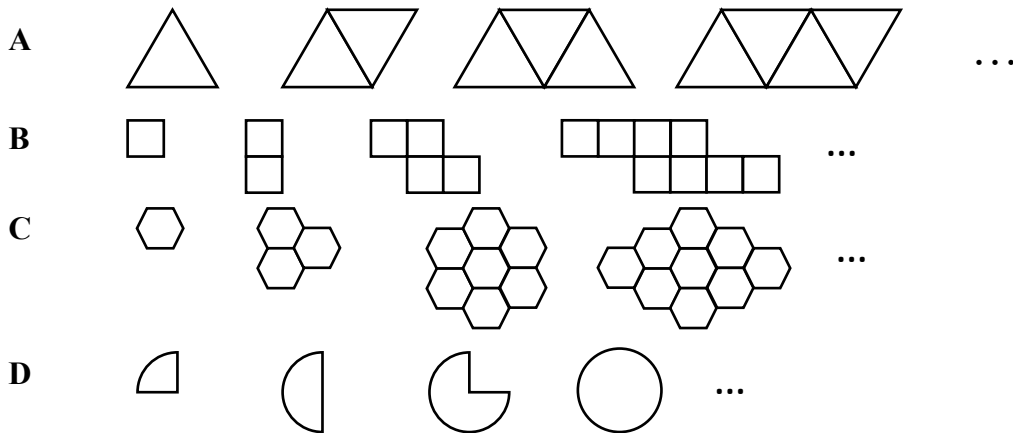
- 38 Berdasarkan tiga ukuran sisi yang diberikan, segi tiga yang manakah merupakan segitiga bersudut tirus?

*Based on three given measurements, which triangle is acute-angled triangle?*

- A 6 cm, 8 cm, 10 cm
- B 7 cm, 24 cm, 25 cm
- C 10 cm, 24 cm, 26 cm
- D 12 cm, 18 cm, 20 cm

- 39 Antara berikut, yang manakah **bukan** teselasi?

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



- 40 Antara berikut, yang manakah merupakan contoh yang betul bagi jenis pelaburan dan tahap kecairan?

*Which of the following is the correct example of type of investment and liquidity level?*

	<b>Jenis Pelaburan</b> <i>Type of Investment</i>	<b>Tahap Kecairan</b> <i>Liquidity Level</i>
A	Simpanan <i>Saving</i>	Sederhana <i>Moderate</i>
B	Saham Syarikat <i>Company shares</i>	Rendah <i>Low</i>
C	Hartanah <i>Real estate</i>	Tinggi <i>High</i>
D	Unit Amanah <i>Unit trust</i>	Tinggi <i>High</i>

**KERTAS PEPERIKSAAN TAMAT**