

SULIT
1449/1
Matematik
Kertas 1
Ogos
2009
1¼ jam



BAHAGIAN PENGURUSAN
SEKOLAH BERASRAMA PENUH DAN SEKOLAH KLUSTER
KEMENTERIAN PELAJARAN MALAYSIA

PEPERIKSAAN PERCUBAAN
SIJIL PELAJARAN MALAYSIA 2009

MATEMATIK
Kertas 1

Satu jam lima belas minit

JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIBERITAHU

1. Kertas soalan ini adalah dalam dwibahasa.
2. Calon dikehendaki membaca maklumat di halaman belakang kertas soalan ini.

Kertas ini mengandungi **25** halaman bercetak.

Dapatkan skema Jawapan di Laman

MATHEMATICAL FORMULAE
RUMUS MATEMATIK

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

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

RELATIONS
PERKAITAN

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

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

6 Midpoint/ Titik tengah $(x, y) = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$

7 Average speed = $\frac{\text{distance travelled}}{\text{time taken}}$ / Purata laju = $\frac{\text{jarak yang dilalui}}{\text{masa yang diambil}}$

8 Mean = $\frac{\text{sum of data}}{\text{number of data}}$ / Min = $\frac{\text{Hasil tambah nilai data}}{\text{Bilangan data}}$

9 Mean = $\frac{\text{sum of (classmark} \times \text{frequency)}}{\text{sum of frequencies}}$

Min = $\frac{\text{Hasil tambah (nilai titik tengah kelas} \times \text{kekerapan) nilai data}}{\text{Hasil tambah kekerapan}}$

10 $P(A) = \frac{n(A)}{n(S)}$

11 $P(A') = 1 - P(A)$

12 $m = \frac{y_2 - y_1}{x_2 - x_1}$

13 $m = -\frac{\text{y-intercept}}{\text{x-intercept}}$ / $m = -\frac{\text{pintasan - y}}{\text{pintasan - x}}$

14 Pythagoras Theorem/ Teorem Pithagoras

$c^2 = a^2 + b^2$

Dapatkan skema Jawapan di Laman

SHAPES AND SPACE
BENTUK DAN RUANG

- 1 Area of trapezium = $\frac{1}{2} \times \text{sum of parallel sides} \times \text{height}$
Luas trapezium = $\frac{1}{2} \times \text{hasil tambah dua sisi selari} \times \text{tinggi}$
- 2 Circumference of circle = $\pi d = 2\pi r$ / *Lilitan bulatan = $\pi d = 2\pi r$*
- 3 Area of circle = πr^2 / *Luas bulatan = πr^2*
- 4 Curved surface area of cylinder = $2\pi rh$ / *Luas permukaan melengkung silinder = $2\pi r h$*
- 5 Surface area of sphere = $4\pi r^2$ / *Luas permukaan sfera = $4\pi r^2$*
- 6 Volume of right prism = cross sectional area \times length
Isipadu prisma tegak = luas keratan rentas \times panjang
- 7 Volume of cylinder = $\pi r^2 h$ / *Isipadu silinder = $\pi r^2 h$*
- 8 Volume of cone = $\frac{1}{3} \pi r^2 h$ / *Isipadu kon = $\frac{1}{3} \pi r^2 h$*
- 9 Volume of sphere = $\frac{4}{3} \pi r^3$ / *Isipadu sfera = $\frac{4}{3} \pi r^3$*
- 10 Volume of right pyramid = $\frac{1}{3} \times \text{base area} \times \text{height}$ /
Isipadu piramid tegak = $\frac{1}{3} \times \text{luas tapak} \times \text{tinggi}$
- 11 Sum of interior angles of a polygon = $(n - 2) \times 180^\circ$
Hasil tambah sudut pedalaman poligon = $(n - 2) \times 180^\circ$
- 12 $\frac{\text{arc length}}{\text{circumference of circle}} = \frac{\text{angle subtended at centre}}{360^\circ}$ / $\frac{\text{panjang lengkok}}{\text{lilitan bulatan}} = \frac{\text{sudut pusat}}{360^\circ}$
- 13 $\frac{\text{area of sector}}{\text{area of circle}} = \frac{\text{angle subtended at centre}}{360^\circ}$ / $\frac{\text{luas sektor}}{\text{luas bulatan}} = \frac{\text{sudut pusat}}{360^\circ}$
- 14 Scale factor, $k = \frac{PA'}{PA}$ / *Faktor skala, $k = \frac{PA'}{PA}$*
- 15 Area of image = $k^2 \times \text{area of object}$ / *Luas imej = $k^2 \times \text{luas objek}$*

SULIT

Jawab semua soalan.

- 1 Round off 2.01871 correct to three significant figures.
Bundarkan 2.01871 betul kepada tiga angka bererti.

A 2.019
B 2.018
C 2.02
D 2.01

- 2 Evaluate $8.32 \times 10^{-5} - 7.6 \times 10^{-6}$.
Nilaikan $8.32 \times 10^{-5} - 7.6 \times 10^{-6}$.

A 7.56×10^{-6}
B 8.56×10^{-6}
C 7.56×10^{-5}
D 8.56×10^{-5}

- 3 A rectangle field has an area of 12.4 km^2 . Its length is 3500m. Calculate the width, in m, of the field.
Luas padang yang berbentuk sesiempat tepat ialah 12.4 km^2 . Panjangnya berukuran 3500 m. Kira lebar, dalam m, padang itu.

A 3.54×10^5
B 3.54×10^4
C 3.54×10^3
D 3.54×10^2

- 4 $10100_2 - 1001_2 =$

A 1101_2
B 1011_2
C 1001_2
D 111_2

- 5 Find the value of digit 3 for the number 4302_5 in base ten.

Dapatkan skema Jawapan di Laman

SULIT

Cari nilai digit 3 bagi nombor 4302_5 dalam asas sepuluh .

- A 75
- B 80
- C 85
- D 150

6 List all the integers x which satisfy both the inequalities $7 - x > 4$ and $2x + 5 > 1$.
Senaraikan semua nilai integer x yang memenuhi syarat kedua-dua ketaksamaan $7 - x > 4$ dan $2x + 5 > 1$.

- A $-3, -2, -1, 0, 1, 2$
- B $-1, 0, 1, 2$
- C $-2, -1, 0$
- D $2, 3, 4$

7 $(2x - y)^2 - x(x + y) =$

- A $3x^2 - y^2 - 3xy$
- B $3x^2 + y^2 - 3xy$
- C $3x^2 - y^2 - 5xy$
- D $3x^2 + y^2 - 5xy$

8 Simplify $(3m^{-3}n^2)^3 \times \frac{1}{3}m^2n^{-5}$.

Ringkaskan $(3m^{-3}n^2)^3 \times \frac{1}{3}m^2n^{-5}$.

- A $3m^{-7}$
- B $9m^{-7}$
- C $3m^2n^{-1}$
- D $9m^{-7}n$

9 Diagram 1 shows two right-angled triangles, JKM and LKM . KMN is a straight line. It is given that $KL = 12$ cm, $LM = 13$ cm and $JM = 10$ cm.

Dapatkan skema Jawapan di Laman

SULIT

Rajah 1 menunjukkan dua buah segitiga bersudut tepat, JKM dan LKM . KMN ialah satu garis lurus. Diberi $KL = 12$ cm, $LM = 13$ cm dan $JM = 10$ cm.

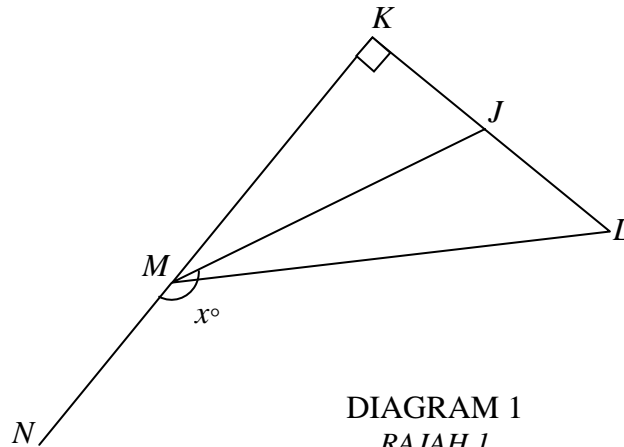


DIAGRAM 1
RAJAH 1

Find the value of $\cos x^\circ$.
Cari nilai kos x° .

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

10 Given that $\left(\frac{3}{4}\right)^{2x-1} = 4^{3x-5} \times 3^{2x-1}$, find the value of x .

Diberi bahawa $\left(\frac{3}{4}\right)^{2x-1} = 4^{3x-5} \times 3^{2x-1}$, cari nilai x .

- A -4
- B $\frac{4}{5}$
- C $\frac{6}{5}$
- D 4

11 In Diagram 2, $PQRST$ is a regular pentagon and $TUVSWZ$ is a regular hexagon.

SULIT

Dalam Rajah 2, $PQRST$ ialah sebuah pentagon sekata dan $TUVSWZ$ ialah sebuah heksagon sekata.

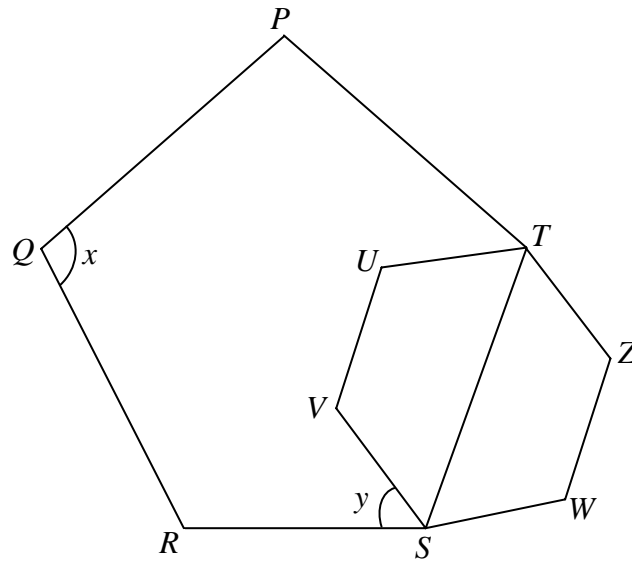


DIAGRAM 2
RAJAH 2

Calculate $x - y$.

Hitung $x - y$.

- A 70°
- B 60°
- C 48°
- D 30°

12 Express $\frac{r}{5} - \frac{5 - 2r^2}{15r}$ as a single fraction in its simplest form.

Ungkapkan $\frac{r}{5} - \frac{5 - 2r^2}{15r}$ sebagai satu pecahan tunggal dalam bentuk termudah.

- A $\frac{r^2 - 1}{3r}$
- B $\frac{r^2 - 5}{15r}$
- C $\frac{r^2 + 1}{3r}$
- D $\frac{r^2 + 5}{15r}$

Dapatkan skema Jawapan di Laman

SULIT

- 13** In Diagram 3, $HIJKLM$ is a regular hexagon. $JKLO$ is a rhombus and JL is a straight line.
 Dalam Rajah 3, $HIJKLM$ ialah sebuah heksagon sekata. $JKLO$ ialah sebuah rombus dan JL ialah satu garis lurus.

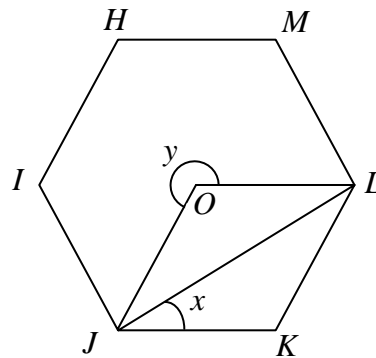


DIAGRAM 3
RAJAH 3

Find the value of $x + y$.

Cari nilai $x + y$.

- A 300°
 - B 290°
 - C 270°
 - D 240°
- 14** In Diagram 4, PQR and PST are tangents to the circle with centre O .
 Dalam Rajah 4, PQR dan PST ialah tangen kepada bulatan berpusat di O .

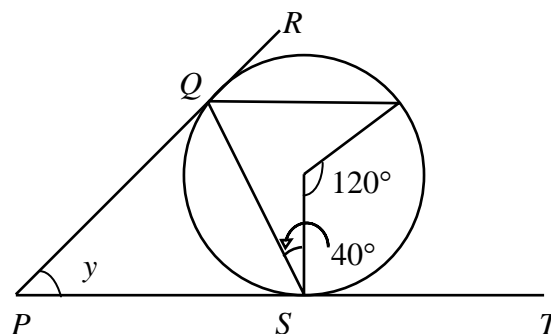


DIAGRAM 4
RAJAH 4

Find the value of y .

Cari nilai y .

- A 50°
- B 60°
- C 70°
- D 80°

Dapatkan skema Jawapan di Laman

SULIT

- 15** Diagram 5 shows a few points on a Cartesian plane.
Rajah 5 menunjukkan beberapa titik di atas satah Cartesian .

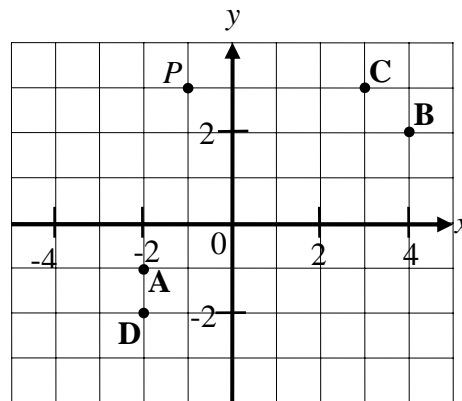


DIAGRAM 5
RAJAH 5

Which of the points **A**, **B**, **C** or **D** is the image of point *P* under rotation 90° anticlockwise about centre $(1, 0)$?
Antara titik-titik A, B, C atau D yang manakah ialah imej bagi titik P di bawah putaran 90° ikut lawan arah jam berpusat di $(1,0)$?

- 16** Given that $\frac{1}{2}(h - 3) = 4 - 3(h - 2)$, calculate the value of *h*.

Diberi $\frac{1}{2}(h - 3) = 4 - 3(h - 2)$, hitung nilai *h*.

- A** $\frac{17}{4}$
- B** $\frac{23}{7}$
- C** $\frac{13}{7}$
- D** $\frac{5}{4}$

SULIT

- 17 Diagram 6 shows that quadrilateral K is the image of quadrilateral L under a transformation.
Rajah 6 menunjukkan sisiempat K adalah imej kepada sisiempat L di bawah satu penjelmaan.

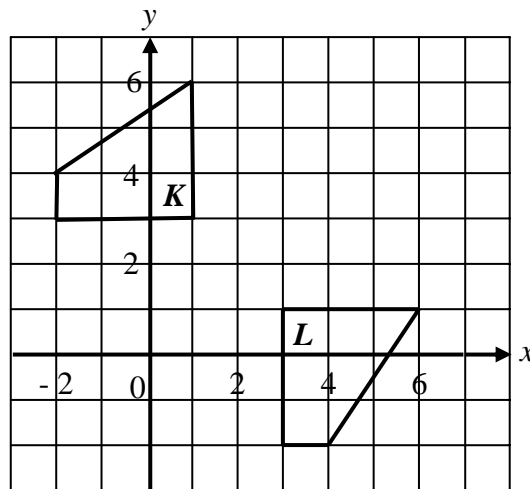


DIAGRAM 6
RAJAH 6

Which of the following is the correct transformation?
Antara berikut yang manakah ialah penjelmaan yang betul?

- A A Translation $\begin{pmatrix} -2 \\ 2 \end{pmatrix}$.
Translasi $\begin{pmatrix} -2 \\ 2 \end{pmatrix}$.
- B A reflection in the line $y = x$.
Pantulan pada garis $y = x$.
- C An anticlockwise rotation of 90° about the centre $(3, 3)$.
Putaran 90° arah lawan jam berpusat di $(3,3)$.
- D An enlargement at centre $(3, 3)$ with scale factor 1.
Pembesaran berpusat di $(3, 3)$ dengan faktor skala 1.

Dapatkan skema Jawapan di Laman

SULIT

- 18** In Diagram 7, LMN is a straight line. Given that $MK = 25$ cm and $NK = 24$ cm.
Dalam Rajah 7, LMN ialah satu garis lurus. Diberi $MK = 25$ cm dan $NK = 24$ cm.

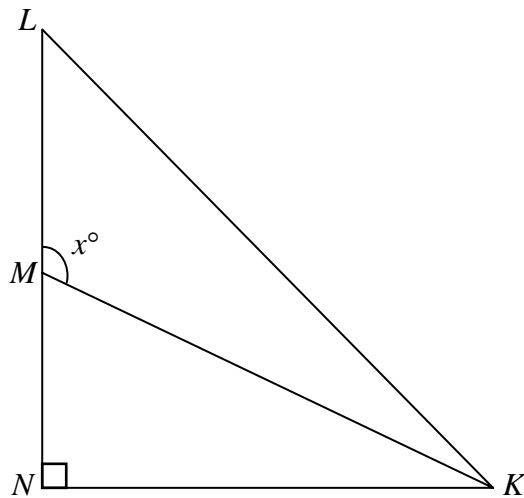


DIAGRAM 7
RAJAH 7

Calculate the value of $\cos x^\circ + \sin x^\circ$.

Hitung nilai $\cos x^\circ + \sin x^\circ$.

- A $\frac{31}{25}$
- B $\frac{17}{25}$
- C $-\frac{17}{25}$
- D $-\frac{31}{25}$

Dapatkan skema Jawapan di Laman

SULIT

- 19** Diagram 8 shows the position of points P , Q and R on a horizontal ground.
Rajah 8 menunjukkan kedudukan titik-titik P , Q dan R yang terletak di atas tanah mengufuk .

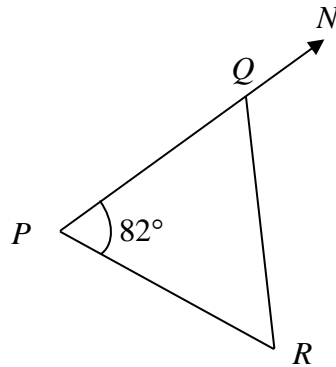


DIAGRAM 8
RAJAH 8

Find the bearing of P from R .
Cari bearing P dari R .

- A** 082°
B 098°
C 262°
D 278°
- 20** Given that $P = \frac{1}{2}\sqrt{4QR+1}$, express Q in terms of P and R .
Diberi bahawa $P = \frac{1}{2}\sqrt{4QR+1}$, ungkapkan Q dalam sebutan P dan R .

- A** $Q = \frac{P^2 - 1}{R}$
B $Q = \frac{2P^2 - 1}{4R}$
C $Q = \frac{4P^2 - 1}{2R}$
D $Q = \frac{4P^2 - 1}{4R}$

Dapatkan skema Jawapan di Laman

SULIT

- 21 In Diagram 9, X , Y and Z are three points on a horizontal ground. WX is a vertical pole and the angle of elevation of W from Z is 15.5° .
Dalam Rajah 9, X , Y dan Z ialah tiga titik yang terletak di atas tanah mengufuk. WX ialah sebatang tiang tegak dan sudut dongak W dari Z ialah 15.5° .

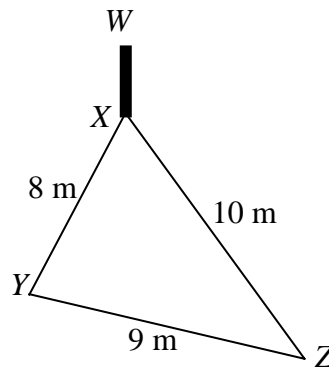


DIAGRAM 9
RAJAH 9

Find the angle of depression of Y from W .
Cari sudut tunduk Y dari W .

- A 70.9°
B 46.1°
C 19.1°
D 18.5°
- 22 Determine the x -intercept of the straight line $5x + 3y - 8 = 0$.
Kenal pasti pintasan pada paksi- x bagi garis lurus $5x + 3y - 8 = 0$.

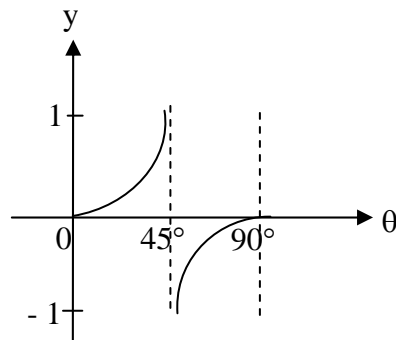
- A $\frac{8}{5}$
B $\frac{8}{3}$
C $-\frac{5}{3}$
D $-\frac{8}{5}$

Dapatkan skema Jawapan di Laman

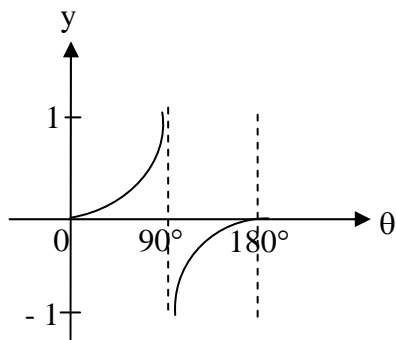
SULIT

- 23** Which of the following graphs represents $y = \tan \theta$ for $0^\circ \leq \theta \leq 360^\circ$?
 Antara graf berikut, yang manakah mewakili $y = \tan \theta$ for $0^\circ \leq \theta \leq 360^\circ$?

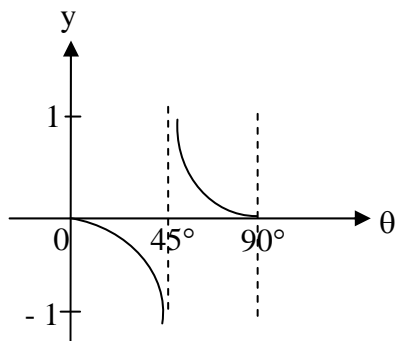
A



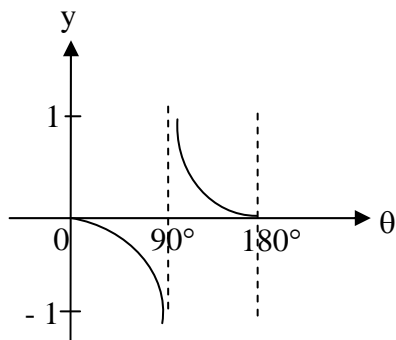
B



C



D



Dapatkan skema Jawapan di Laman

SULIT

24 Diagram 10 shows a right prism with a uniform cross section $JKLM$, as the horizontal base.

Rajah 10 menunjukkan sebuah prisma tegak dengan keratan rentas seragam $JKLM$ sebagai tapak mengufuk.

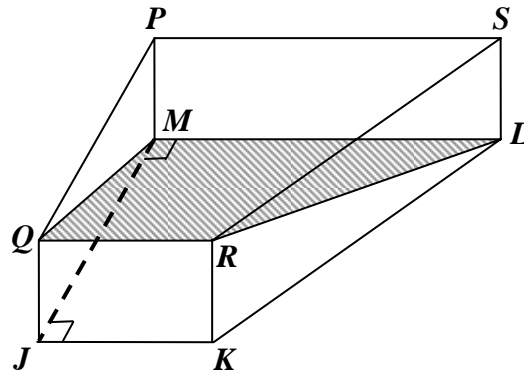


DIAGRAM 10
RAJAH 10

Name the angle between the plane $QRLM$ and plane $JKRQ$.
Namakan sudut di antara satah $QRLM$ dan tapak $JKRQ$.

- A $\angle LRK$
- B $\angle JQM$
- C $\angle SRL$
- D $\angle MQP$

SULIT

- 25 In Diagram 11, *NGRS* is Greenwich Meridian. *O* is the centre of the earth. *POQ*, *NOS* and *KOL* are the diameters of the earth.
Dalam Rajah 11, NGRS ialah Meridian Greenwich. O ialah pusat bumi. POQ, NOS dan KOL adalah diameter-diameter bumi.

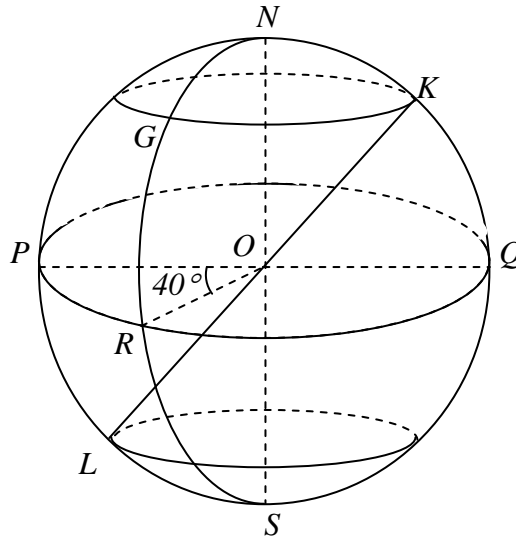


DIAGRAM 11
RAJAH 11

Given $\angle LOS = 35^\circ$. State the position of point *K*.
*Diberi $\angle LOS = 35^\circ$. Nyatakan kedudukan titik *K*.*

- A (55°N, 140°E)
(55°U, 140°T)
- B (55°N, 140°W)
(55°U, 140°B)
- C (35°N, 140°E)
(35°U, 140°T)
- D (35°N, 140°W)
(35°U, 140°B)

SULIT

- 26 In Diagram 12, N is the North Pole, S is the South Pole and NOS is the axis of the earth. PRQ is the Equator and NQS is Greenwich Meridian.
 Dalam Rajah 12, N ialah Kutub Utara, S ialah Kutub Selatan dan NOS ialah paksi bumi. PRQ ialah Khatulistiwa dan NQS ialah Meridian Greenwich.

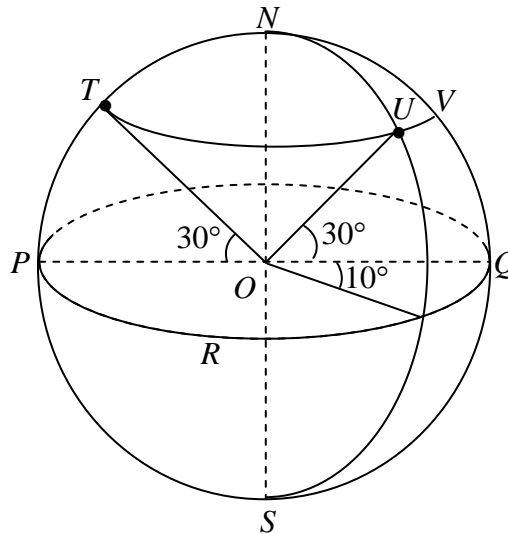


DIAGRAM 12
 RAJAH 12

Calculate the shortest distance from T to U .
 Hitung jarak terdekat dari T ke U .

- A 8833.46 n.m.
8833.46 b.n.
- B 7200 n.m.
7200 b.n.
- C 6235.38 n.m.
6235.38 b.n.
- D 3660 n.m.
3660 b.n.

SULIT

- 27 Table 1 shows the distribution of the time required by 40 trainees to finish a certain procedure.
Jadual 1 menunjukkan taburan masa yang dikehendaki oleh 40 pelatih bagi menamatkan sesuatu prosedur latihan.

Time (minute) <i>Masa (minit)</i>	Frequency <i>Kekerapan</i>
15 – 19	5
20 – 24	7
25 – 29	10
30 – 34	13
35 - 39	5

JADUAL 1
TABLE 1

Calculate the mean time, in minutes, taken by a trainee to finish the procedure.
Hitung min masa, dalam minit, yang diambil oleh pelatih untuk menamatkan prosedur tersebut.

- A 25.75
B 27.75
C 29.75
D 30.25
- 28 Given that $y \propto \frac{1}{8x-5}$ and $y = 5$ when $x = 1$. Calculate the value of y when $x = 5$.
Diberi $y \propto \frac{1}{8x-5}$ dan $y = 5$ bila $x = 1$. Hitung nilai y bila $x = 5$.
- A 1
B $\frac{7}{5}$
C $\frac{3}{7}$
D $\frac{1}{35}$

Dapatkan skema Jawapan di Laman

SULIT

- 29** Diagram 13 is a pictograph showing the number of players for ping pong, tennis and basket ball.
Rajah 13 ialah sebuah piktograf menunjukkan bilangan pemain untuk ping pong, tenis dan bola keranjang.

Ping Pong	☺ ☺ ☺ ☺ ☺
Tennis	☺ ☺ ☺ ☺ ☺ ☺ ☺
Basket Ball	☺ ☺ ☺

☺ represents 2 students
mewakili 2 pelajar

DIAGRAM 13
RAJAH 13

If the data above is represented in a pie chart, calculate the angle of the sector that represents the mode of the data.
Jika data di atas ditunjukkan dalam bentuk carta pai, hitung sudut sektor yang mewakili mod bagi data tersebut.

- A** 84°
B 112°
C 126°
D 168°
- 30** It is given that $\xi = \{x : 12 \leq x \leq 25, x \text{ is an integer}\}$, set $L = \{13, 15, 16, 18\}$, set $N = \{x : x \text{ is a prime number}\}$ $M = \{x : x \text{ is an odd number}\}$.
The elements of $(M \cap N)' \cap L$ are
Diberi set semesta $\xi = \{x : 12 \leq x \leq 25, x \text{ ialah integer}\}$, set $L = \{13, 15, 16, 18\}$, set $N = \{x : x \text{ ialah nombor perdana}\}$, $M = \{x : x \text{ ialah nombor ganjil}\}$. Unsur-Unsur bagi $(M \cap N)' \cap L$ ialah
- A** {15,16,18}
B {15, 21, 25}
C {13, 17, 19, 23}
D {13, 15, 16, 18}

SULIT

- 31 Diagram 14 shows the sketching of a graph function.
Rajah 14 menunjukkan lakaran satu graf fungsi.

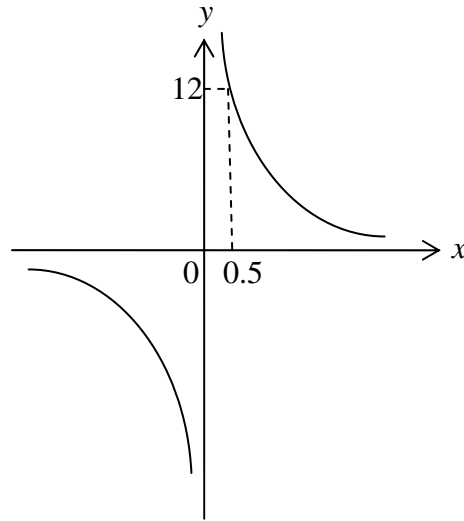


DIAGRAM 14
RAJAH 14

The equation of the graph function is
Persamaan bagi graf fungsi tersebut ialah

- A $y = \frac{6}{x}$
- B $y = \frac{24}{x}$
- C $y = -\frac{6}{x}$
- D $y = \frac{-24}{x}$
- 32 Given $\begin{pmatrix} 2 & 1 \\ 4 & x \end{pmatrix} \begin{pmatrix} 3 \\ 4 \end{pmatrix} = \begin{pmatrix} y \\ 0 \end{pmatrix}$. Find the value of x and of y .
Diberi $\begin{pmatrix} 2 & 1 \\ 4 & x \end{pmatrix} \begin{pmatrix} 3 \\ 4 \end{pmatrix} = \begin{pmatrix} y \\ 0 \end{pmatrix}$. Cari nilai x dan y .
- A $x = 3, y = 2$
- B $x = 3, y = 10$
- C $x = -3, y = 2$
- D $x = -3, y = 10$

Dapatkan skema Jawapan di Laman

33

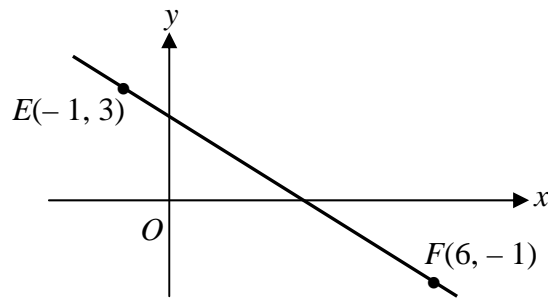


DIAGRAM 15
RAJAH 15

Find the equation of the straight line EF in Diagram 15.
Cari persamaan garis lurus EF dalam Rajah 15.

- A $7y = -4x + 17$
- B $7y = -4x + 25$
- C $y = -\frac{2}{7}x + \frac{19}{7}$
- D $y = -\frac{4}{7}x + 17$

34 Diagram 16 is a Venn diagram that shows the elements of set P , set Q and set R .
Rajah 16 ialah sebuah Gambarajah Venn yang menunjukkan unsur-unsur bagi set P , set Q dan set R .

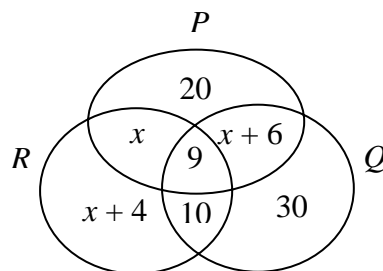


DIAGRAM 16
RAJAH 16

It is given that the universal set, $\xi = P \cup Q \cup R$, $n(\xi) = 100$. Find the value of $n(P \cup Q)'$.

Diberi set semesta, $\xi = P \cup Q \cup R$, $n(\xi) = 100$. Cari nilai bagi $n(P \cup Q)'$.

- A 7
- B 10
- C 11
- D 12

Dapatkan skema Jawapan di Laman

SULIT

- 35** Diagram 17 is a Venn diagram that shows set E , set F and set G .
Rajah 17 ialah satu gambar rajah Venn yang menunjukkan set E , set F dan set G .

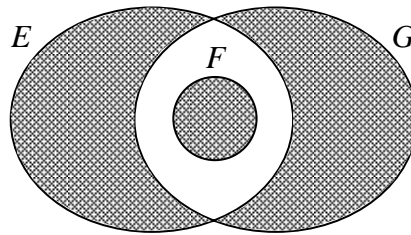


DIAGRAM 17
RAJAH 17

The shaded region represents by
Kawasan berlorek diwakilkan oleh

- A** $E' \cup F' \cup G'$
- B** $E' \cap G' \cap F'$
- C** $E \cap F \cap G$
- D** $E' \cup G' \cup F$
- 36** A card is selected at random from 20 numbered cards. The cards are numbered from 51 to 70. Find the probability that the number on the card is not a prime number.
Sekeping kad dipilih secara rawak daripada 20 keping kad bernombor. Kad-kad tersebut ditandai nombor 51 sehingga 70. Cari kebarangkalian nombor itu bukan nombor perdana.

- A** $\frac{1}{5}$
- B** $\frac{3}{10}$
- C** $\frac{7}{10}$
- D** $\frac{4}{5}$

Dapatkan skema Jawapan di Laman

SULIT

- 37 A box contains coloured pencils: 12 are red, 4 yellow and a number of green ones. If a pencil is chosen at random from the box, the probability of choosing a red pencil is $\frac{4}{7}$. Calculate the total number of green pencils in the box.

Sebuah kotak mengandungi pensel berwarna: 12 batang berwarna merah, 4 batang berwarna kuning dan beberapa batang berwarna hijau. Jika sebatang pensel dipilih secara rawak dari kotak itu, kebarangkalian memilih sebatang pensel berwarna merah ialah $\frac{4}{7}$. Hitung jumlah pensel yang berwarna hijau.

- A** 21
B 17
C 9
D 5

- 38 Simplify $\begin{pmatrix} -7 \\ 3 \end{pmatrix} - 5\begin{pmatrix} 1 \\ -2 \end{pmatrix} + \begin{pmatrix} 2 \\ -6 \end{pmatrix}$.
Permudahkan $\begin{pmatrix} -7 \\ 3 \end{pmatrix} - 5\begin{pmatrix} 1 \\ -2 \end{pmatrix} + \begin{pmatrix} 2 \\ -6 \end{pmatrix}$.

- A** $\begin{pmatrix} -10 \\ 7 \end{pmatrix}$
B $\begin{pmatrix} 0 \\ -7 \end{pmatrix}$
C $\begin{pmatrix} -10 \\ -16 \end{pmatrix}$
D $\begin{pmatrix} 0 \\ -16 \end{pmatrix}$

Dapatkan skema Jawapan di Laman

SULIT

- 39 Table 2 shows some values of the variables H , F and G which satisfy the relationship $H \propto \frac{1}{FG}$.

Jadual 2 menunjukkan beberapa nilai bagi pemboleh ubah H , F dan G yang memuaskan hubungan $H \propto \frac{1}{FG}$.

H	4	e
F	$\frac{1}{2}$	32
G	8	$\frac{1}{4}$

TABLE 2
JADUAL 2

Calculate the value of e .
Hitungkan nilai e .

- A 1
B 2
C 6
D 8
- 40 The relation between variables T , w and x is $T \propto \frac{x^2}{w}$. It is given that $T = 32$ when $x = 4$ and $w = 6$. Express T in terms of w and x .
Hubungan antara pemboleh ubah T , w dan x ialah $T \propto \frac{x^2}{w}$. Diberi $T = 32$ bila $x = 4$ dan $w = 6$. Ungkapkan T dalam sebutan w dan x .

- A $\frac{12x^2}{w}$
B $\frac{3x^2}{w}$
C $\frac{x^2}{12w}$
D $\frac{24x^2}{w}$

END OF QUESTION PAPER

KERTAS SOALAN TAMAT

Dapatkan skema Jawapan di Laman

INFORMATION FOR CANDIDATES
MAKLUMAT UNTUK CALON

1. This question paper consists of 40 questions.
Kertas soalan ini mengandungi 40 soalan.
2. Answer **all** questions.
*Jawab **semua** soalan.*
3. Each question is followed by four alternative answers, **A, B, C** or **D**. For each question, choose **one** answer only. Blacken your answer on the objective answer sheet provided.
*Setiap soalan diikuti dengan 4 pilihan jawapan, **A, B, C** atau **D**. Pilih hanya satu jawapan sahaja untuk setiap soalan. Hitamkan jawapan anda di atas kertas objektif yang disediakan.*
4. If you wish to change your answer, erase the blackened mark that you have done. Then blacken the space for the new answer.
Jika anda ingin mengubah jawapan, padamkan tanda yang telah dihitamkan. Hitamkan jawapan yang baru.
5. The diagrams in the questions provided are not drawn to scale unless stated.
Rajah di dalam soalan tidak dilukis mengikut skala kecuali dinyatakan.
6. A list of formulae is provided on page 2 to 3.
Senarai rumus disediakan di muka surat 2 hingga 3.
7. You may use a non-programmable scientific calculator.
Anda boleh menggunakan kalkulator yang tidak boleh diprogramkan.