

SULIT



LEMBAGA PEPERIKSAAN  
KEMENTERIAN PENDIDIKAN MALAYSIA

SIJIL PELAJARAN MALAYSIA 2017

MATHEMATICS

Kertas 1

Jun

$1\frac{1}{4}$  jam

1449/1

Satu jam lima belas minit

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JANGAN BUKA KERTAS PEPERIKSAAN INI SEHINGGA DIBERITAHU

1. *Kertas peperiksaan ini adalah dalam dwibahasa.*
2. *Soalan dalam bahasa Inggeris mendahului soalan yang sepadan dalam bahasa Melayu.*
3. *Calon dikehendaki membaca maklumat di halaman belakang kertas peperiksaan ini.*

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Kertas peperiksaan ini mengandungi 32 halaman bercetak.

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**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

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

6 Midpoint / Titik tengah

$$(x, y) = \left( \frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$$

7 Average speed =  $\frac{\text{distance travelled}}{\text{time taken}}$

$$\text{Purata laju} = \frac{\text{jarak yang dilalui}}{\text{masa yang diambil}}$$

8 Mean =  $\frac{\text{sum of data}}{\text{number of data}}$

$$\text{Min} = \frac{\text{hasil tambah nilai data}}{\text{bilangan data}}$$

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

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

10 Pythagoras Theorem  
Teorem Pithagoras

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

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

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

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

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

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

**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 =  $\pi r^2$   
*Luas bulatan =  $\pi r^2$*
- 4 Curved surface area of cylinder =  $2\pi rh$   
*Luas permukaan melengkung silinder =  $2\pi rh$*
- 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  
*Isi padu prisma tegak = luas keratan rentas  $\times$  panjang*
- 7 Volume of cylinder =  $\pi r^2 h$   
*Isi padu silinder =  $\pi r^2 h$*
- 8 Volume of cone =  $\frac{1}{3} \pi r^2 h$   
*Isi padu kon =  $\frac{1}{3} \pi r^2 h$*
- 9 Volume of sphere =  $\frac{4}{3} \pi r^3$   
*Isi padu sfera =  $\frac{4}{3} \pi r^3$*
- 10 Volume of right pyramid =  $\frac{1}{3} \times \text{base area} \times \text{height}$   
*Isi padu piramid tegak =  $\frac{1}{3} \times \text{luas tapak} \times \text{tinggi}$*
- 11 Sum of interior angles of a polygon  
*Hasil tambah sudut pedalaman poligon*  
 $= (n - 2) \times 180^\circ$

$$12 \frac{\text{arc length}}{\text{circumference of circle}} = \frac{\text{angle subtended at centre}}{360^\circ}$$

$$\frac{\text{panjang lengkok}}{\text{lilitan bulatan}} = \frac{\text{sudut pusat}}{360^\circ}$$

$$13 \frac{\text{area of sector}}{\text{area of circle}} = \frac{\text{angle subtended at centre}}{360^\circ}$$

$$\frac{\text{luas sektor}}{\text{luas bulatan}} = \frac{\text{sudut pusat}}{360^\circ}$$

$$14 \text{ Scale factor, } k = \frac{PA'}{PA}$$

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

$$15 \text{ Area of image} = k^2 \times \text{area of object}$$

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

- 1 Express 780 200 in standard form.  
*Ungkapkan 780 200 dalam bentuk piawai.*
- A  $7.802 \times 10^6$
- B  $7.802 \times 10^5$
- C  $7.802 \times 10^{-5}$
- D  $7.802 \times 10^{-6}$
- 2 State the time, in second, for the month of April and express the answer in standard form.  
*Nyatakan masa, dalam saat, untuk bulan April dan ungkapkan jawapan dalam bentuk piawai.*
- A  $4.320 \times 10^4$
- B  $4.464 \times 10^4$
- C  $2.592 \times 10^6$
- D  $2.678 \times 10^6$
- 3 A poultry farm produces 8 472 eggs per day. In a particular week, 125 eggs became rotten. Given the price of an egg is RM0.15, find the total sales, in RM, of eggs sold in that week.  
*Sebuah ladang ternakan menghasilkan 8 472 biji telur sehari. Pada suatu minggu tertentu, 125 biji telur rosak. Diberi harga bagi sebiji telur ialah RM0.15, cari jumlah jualan, dalam RM, telur yang dijual pada minggu itu.*
- A  $8.02 \times 10^3$
- B  $8.45 \times 10^3$
- C  $8.76 \times 10^3$
- D  $8.88 \times 10^3$

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- 4 The volume of a cylinder is  $\frac{22}{7} \times (3 \cdot 5)^2 \times 19$ .

Round off the answer correct to three significant figures.

Isi padu sebuah silinder ialah  $\frac{22}{7} \times (3 \cdot 5)^2 \times 19$ .

Bundarkan jawapan betul kepada tiga angka bererti.

- A 731  
B 731.0  
C 732  
D 732.0
- 5 State the value of the underlined digit, in base ten, of the number  $101\underline{1}01_2$ .  
Nyatakan nilai digit yang bergaris, dalam asas sepuluh, bagi nombor  $101\underline{1}01_2$ .
- A 1  
B 2  
C 4  
D 8

- 6 Given  $2^3 + 1 + k_2 = 110010_2$ , find the value of  $k$ .

Diberi  $2^3 + 1 + k_2 = 110010_2$ , cari nilai  $k$ .

- A 101001  
B 101010  
C 101011  
D 101100

- 7 Diagram 1 shows an irregular polygon,  $PQRSTUWXYZ$  formed by several triangular tiles with different sizes.

Rajah 1 menunjukkan sebuah poligon tak sekata,  $PQRSTUWXYZ$  yang dibentuk daripada beberapa kepingan jubin berbentuk segi tiga yang berlainan saiz.

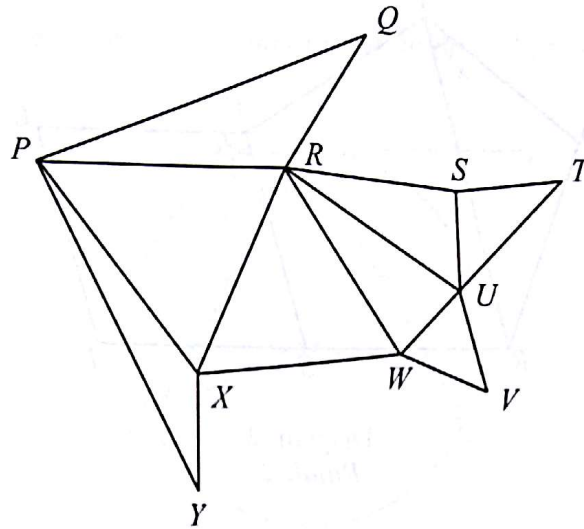


Diagram 1  
Rajah 1

State the sum of the interior angles of the polygon.

Nyatakan jumlah sudut pedalaman poligon itu.

- A  $720^\circ$
- B  $900^\circ$
- C  $1440^\circ$
- D  $1800^\circ$

- 8 In Diagram 2,  $PQRSV$  is a regular pentagon and  $STUV$  is a rhombus.  $RST$  is a straight line.

Dalam Rajah 2,  $PQRSV$  ialah sebuah pentagon sekata dan  $STUV$  ialah sebuah rombus.  $RST$  ialah garis lurus.

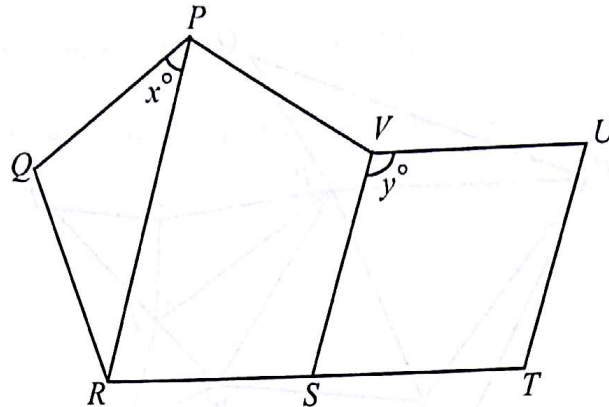


Diagram 2  
Rajah 2

Find the value of  $x + y$ .

Cari nilai  $x + y$ .

- A 108
- B 144
- C 156
- D 180



- 9 In Diagram 3,  $UPV$  is a tangent to a circle at point  $P$  and the arc length of minor sector  $OQR$  is  $\frac{1}{3}$  of the circumference of the circle  $PQR$  with centre  $O$ .

Dalam Rajah 3,  $UPV$  ialah tangen kepada bulatan di titik  $P$  dan panjang lengkok sektor minor  $OQR$  ialah  $\frac{1}{3}$  daripada lilitan bulatan  $PQR$  dengan pusat  $O$ .

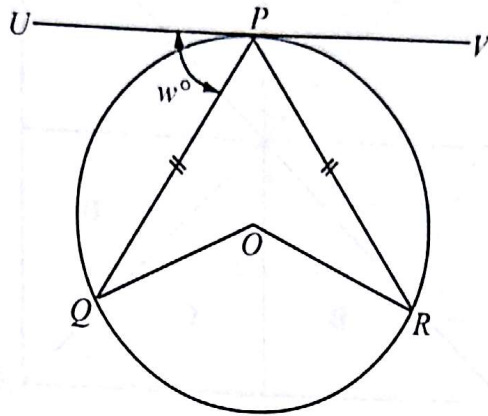


Diagram 3  
Rajah 3

Find the value of  $w$ .

Cari nilai  $w$ .

- A 30
- B 60
- C 90
- D 120

10 Diagram 4 shows a square  $PQRS$ , divided into eight congruent triangles.

Rajah 4 menunjukkan sebuah segi empat sama  $PQRS$ , yang dibahagikan kepada lapan segi tiga yang kongruen.

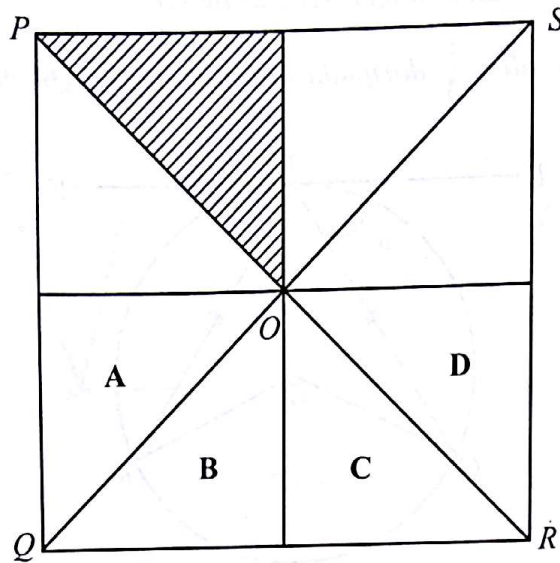


Diagram 4  
Rajah 4

Which of the triangles  $A$ ,  $B$ ,  $C$  or  $D$  is the image of the shaded triangle under a rotation of  $180^\circ$  about centre  $O$ ?

Antara segi tiga  $A$ ,  $B$ ,  $C$  dan  $D$ , yang manakah imej bagi segi tiga berlorek di bawah suatu putaran  $180^\circ$  pada pusat  $O$ ?

- 11 Diagram 5 shows five hexagons A, B, C, D and X, drawn on a square grid.  
*Rajah 5 menunjukkan lima heksagon A, B, C, D dan X, dilukis pada grid segi empat sama.*

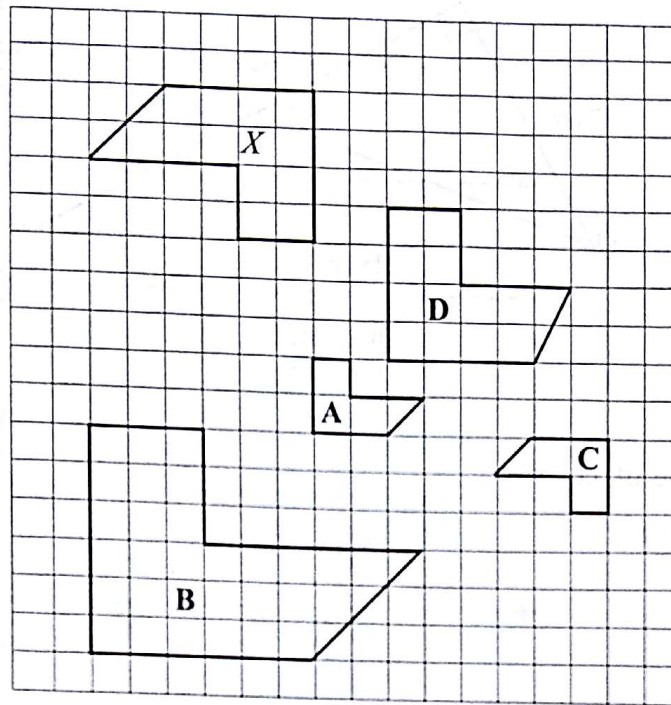


Diagram 5  
*Rajah 5*

Which of the hexagons A, B, C or D is not the image of hexagon X under a combined transformation?

*Antara heksagon A, B, C dan D yang manakah bukan imej heksagon X di bawah suatu gabungan penjelmaan?*

12 Diagram 6 shows a right angled triangle  $PQR$ .  $S$  is the midpoint of  $PR$ .

Rajah 6 menunjukkan segi tiga bersudut tegak  $PQR$ .  $S$  ialah titik tengah  $PR$ .

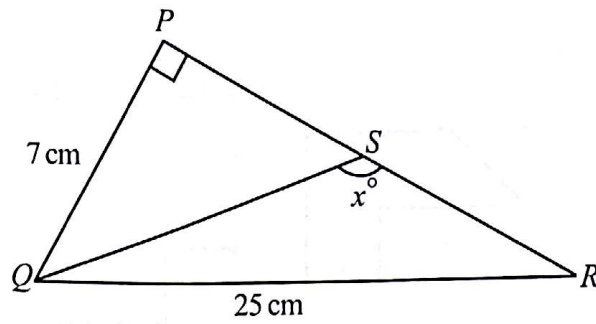


Diagram 6  
Rajah 6

Find the value of  $\cos x^\circ$ .

Cari nilai  $\cos x^\circ$ .

A  $\frac{12}{\sqrt{193}}$

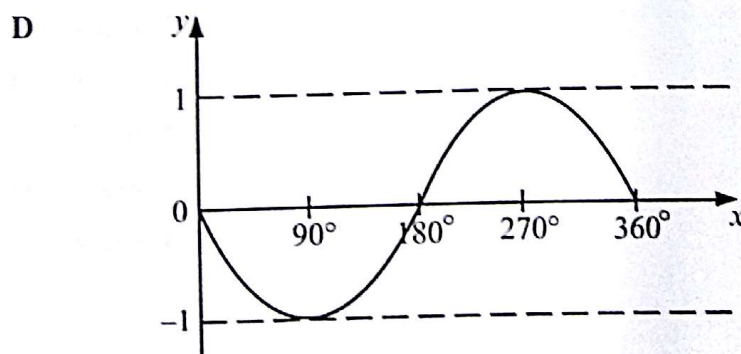
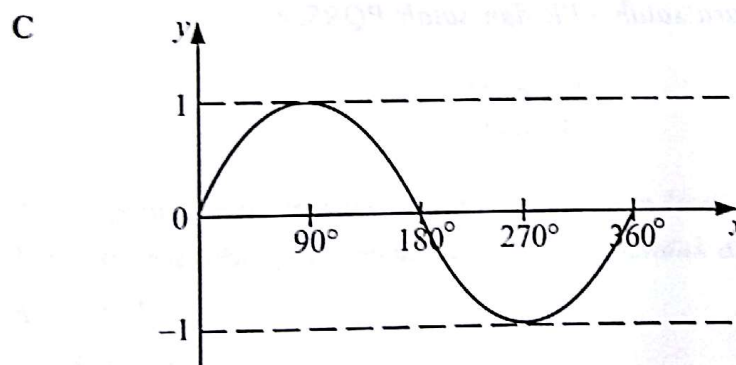
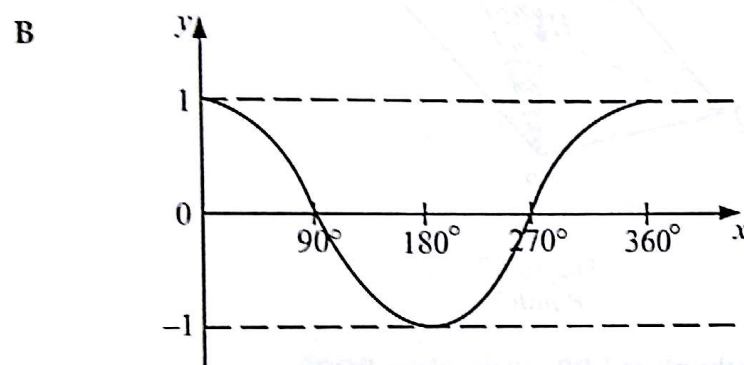
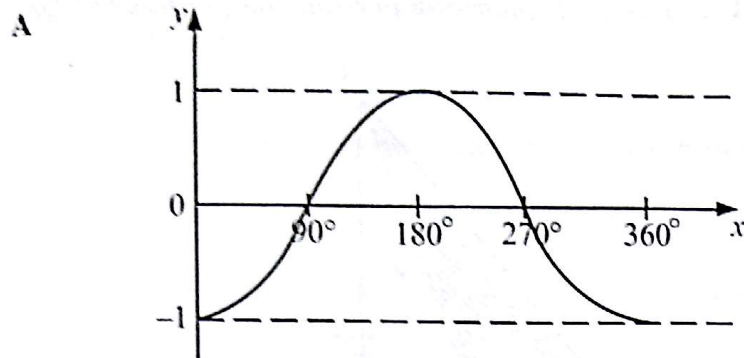
B  $\frac{24}{25}$

C  $-\frac{12}{\sqrt{193}}$

D  $-\frac{12}{25}$

13 Which graph represents  $y = \cos x^\circ$  for  $0^\circ \leq x \leq 360^\circ$ ?

Graf manakah yang mewakili  $y = \cos x^\circ$  bagi  $0^\circ \leq x \leq 360^\circ$ ?



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- 14 Diagram 7 shows a pyramid with  $PQRS$  as the horizontal base. Vertex  $V$  is vertically above  $S$ .  $H$  is the intersection point of the diagonals  $PQRS$ .

Rajah 7 menunjukkan sebuah piramid dengan  $PQRS$  sebagai tapak mengufuk. Puncak  $V$  berada tegak di atas  $S$ .  $H$  ialah titik persilangan pepenjuru  $PQRS$ .

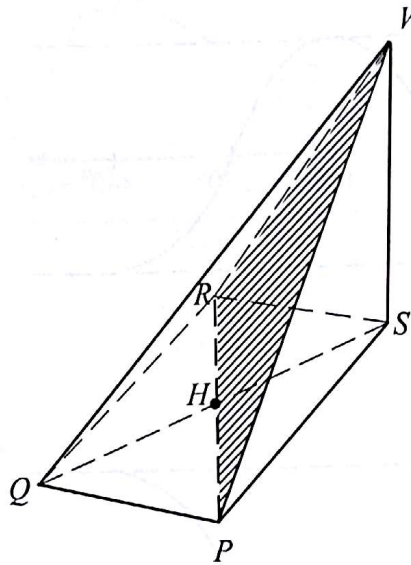


Diagram 7  
Rajah 7

Name the angle between the plane  $VPR$  and the plane  $PQRS$ .

Namakan sudut di antara satah  $VPR$  dan satah  $PQRS$ .

- A  $\angle SVH$
- B  $\angle SVP$
- C  $\angle VHS$
- D  $\angle VPS$

15 Diagram 8 shows a helicopter with a passenger,  $P$  which is vertically above point  $Q$ . Points  $R$ ,  $S$ ,  $Q$ ,  $T$  and  $U$  are aligned and lie on the horizontal ground.

Rajah 8 menunjukkan sebuah helikopter dengan seorang penumpang,  $P$  yang berada tegak di atas titik  $Q$ . Titik-titik  $R$ ,  $S$ ,  $Q$ ,  $T$  dan  $U$  adalah sebaris dan berada pada tanah mengufuk.

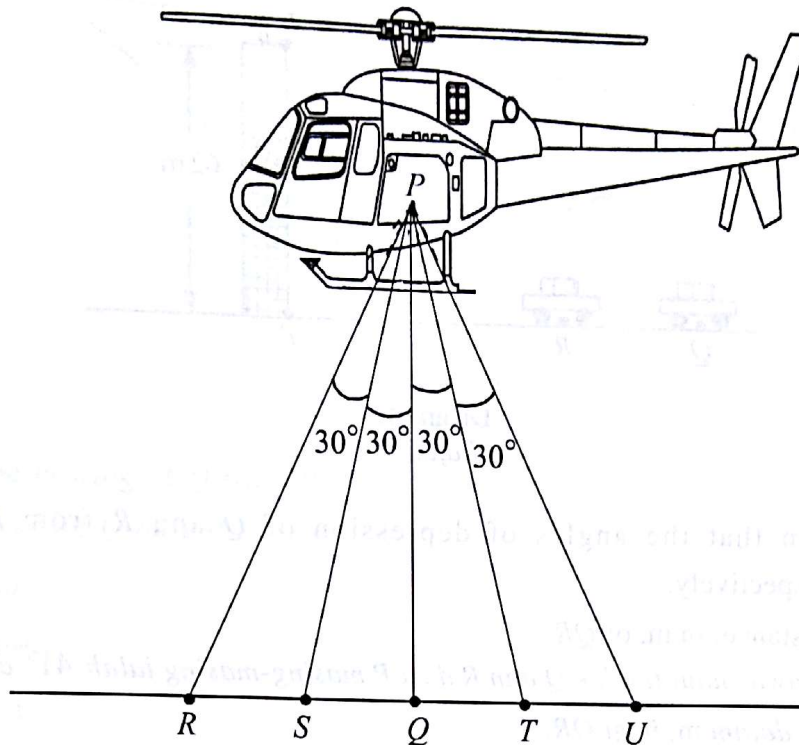


Diagram 8  
Rajah 8

Which points show that the angle of depression from point  $P$  is  $60^\circ$ ?

Titik-titik manakah yang menunjukkan sudut tunduk dari titik  $P$  ialah  $60^\circ$ ?

- A  $S$  and  $T$   
 $S$  dan  $T$
- B  $R$  and  $U$   
 $R$  dan  $U$
- C  $R$  and  $T$   
 $R$  dan  $T$
- D  $S$  and  $U$   
 $S$  dan  $U$

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- 16 Diagram 9 shows an air traffic control tower,  $P$  and two vehicles,  $Q$  and  $R$  on the aeroplane runway. Points  $Q$ ,  $R$  and  $T$  are aligned and lie on a horizontal plane. Point  $P$  is vertically above point  $T$ .

Rajah 9 menunjukkan menara kawalan trafik udara,  $P$  dan dua kenderaan,  $Q$  dan  $R$  pada satu landasan kapal terbang. Titik  $Q$ , titik  $R$  dan titik  $T$  adalah sebaris dan terletak di atas satah mengufuk. Titik  $P$  adalah tegak di atas titik  $T$ .

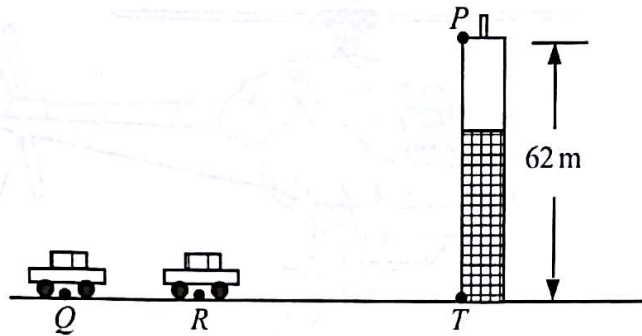


Diagram 9  
Rajah 9

It is given that the angles of depression of  $Q$  and  $R$  from  $P$  are  $41^\circ$  and  $56^\circ$  respectively.

Find the distance, in m, of  $QR$ .

Diberi bahawa sudut tunduk  $Q$  dan  $R$  dari  $P$  masing-masing ialah  $41^\circ$  dan  $56^\circ$ .

Cari jarak, dalam m, bagi  $QR$ .

- A 16.6
- B 17.8
- C 29.5
- D 38.0



17 Diagram 10 shows points  $P$ ,  $Q$  and  $R$ , on a horizontal plane. It is given that  $Q$  lies due west of  $R$  and the bearing of  $P$  from  $R$  is  $240^\circ$ .

Rajah 10 menunjukkan titik  $P$ , titik  $Q$  dan titik  $R$ , pada suatu satah mengufuk. Diberi bahawa  $Q$  berada ke barat  $R$  dan bearing  $P$  dari  $R$  ialah  $240^\circ$ .

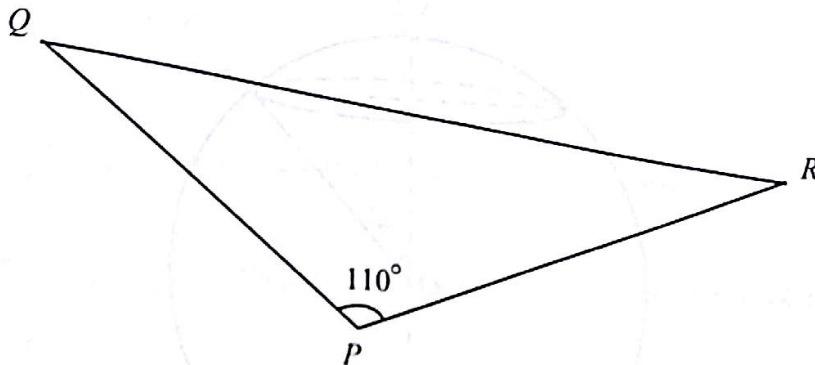


Diagram 10  
Rajah 10

Find the bearing of  $Q$  from  $P$ .

Cari bearing  $Q$  dari  $P$ .

- A  $130^\circ$
- B  $140^\circ$
- C  $310^\circ$
- D  $320^\circ$

- 18 In Diagram 11,  $N$  is the North Pole,  $S$  is the South Pole and  $O$  is the centre of the Earth.

*Dalam Rajah 11,  $U$  ialah Kutub Utara,  $S$  ialah Kutub Selatan dan  $O$  ialah pusat Bumi.*

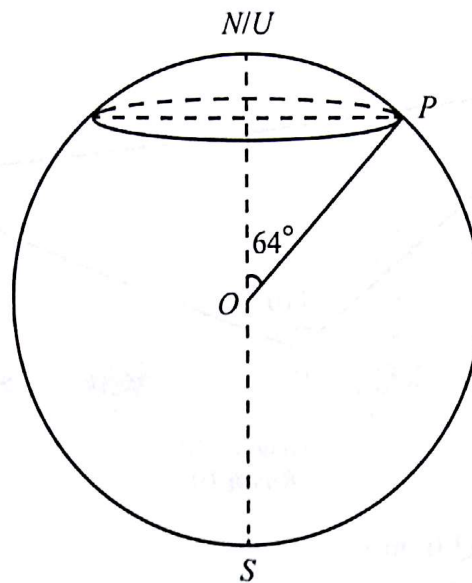


Diagram 11  
Rajah 11

$P$  is a point on the surface of the Earth.

State the latitude of  $P$ .

*$P$  ialah satu titik di atas permukaan Bumi.*

*Nyatakan latitud  $P$ .*

- A  $26^{\circ}E$
- $26^{\circ}T$
- B  $26^{\circ}N$
- $26^{\circ}U$
- C  $64^{\circ}E$
- $64^{\circ}T$
- D  $64^{\circ}N$
- $64^{\circ}U$

19  $(2h - r)^2 + hr =$

A  $2h^2 + hr - r^2$

B  $2h^2 + 5hr + r^2$

C  $4h^2 + hr - r^2$

D  $4h^2 - 3hr + r^2$

20 Express  $\frac{1}{2h} - \frac{h+6}{6h^2}$  as a single fraction in its simplest form.Ungkapkan  $\frac{1}{2h} - \frac{h+6}{6h^2}$  sebagai satu pecahan tunggal dalam bentuk termudah.

A  $\frac{h-3}{3h^2}$

B  $\frac{h+3}{3h^2}$

C  $\frac{7-h}{6h^2}$

D  $\frac{9-h}{6h^2}$

21 It is given that the distance from Umi's house to the school is represented by

$$d = 50 - \frac{6}{5}t.$$

Express  $t$  in terms of  $d$ .Diberi bahawa jarak dari rumah Umi ke sekolah diwakili oleh  $d = 50 - \frac{6}{5}t$ .Ungkapkan  $t$  dalam sebutan  $d$ .

A  $t = \frac{-5(50+d)}{6}$

B  $t = \frac{5(50-d)}{6}$

C  $t = \frac{6(50-d)}{5}$

D  $t = \frac{6(50+d)}{5}$

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22 Given  $\frac{1}{2}(m - 6) = 3 + \frac{m}{5}$ , find the value of  $m$ .

Diberi  $\frac{1}{2}(m - 6) = 3 + \frac{m}{5}$ , cari nilai  $m$ .

- A 11
- B 12
- C 20
- D 21

23  $16^{\frac{3}{4}} =$

- A  $(\sqrt[3]{16})^4$
- B  $(\sqrt[4]{16})^3$
- C  $\frac{1}{(\sqrt[3]{16})^4}$
- D  $\frac{1}{(\sqrt[4]{16})^3}$

24 Simplify:

Ringkaskan:

$$\left(\frac{3m}{n}\right)^3 \times \left(27^{\frac{1}{3}} m^2 n^{-3}\right)^{-2}$$




- A  $\frac{3n^3}{m}$
- B  $\frac{n^3}{3m}$
- C  $\frac{3n^5}{m}$
- D  $\frac{n^5}{3m}$

- 25 It is given that  $m < x \leq n$  satisfies the inequalities  $10 - 3x \geq 4$  and  $2(x + 6) > 4$ . Find the value of  $m$  and of  $n$ .

Diberi bahawa  $m < x \leq n$  memuaskan ketaksamaan  $10 - 3x \geq 4$  dan  $2(x + 6) > 4$ .

Cari nilai  $m$  dan nilai  $n$ .

- A  $m = -4$  .  $n = 2$   
 B  $m = -3$  .  $n = 2$   
 C  $m = -4$  .  $n = 4$   
 D  $m = -3$  .  $n = 4$
- 26 Diagram 12 shows a pictogram of the sales of four brands of handphones. The number of brand  $P$  is not shown.
- Rajah 12 menunjukkan piktogram bagi jualan empat jenama telefon bimbit. Bilangan jenama  $P$  tidak ditunjukkan.

Brand $P$ Jenama $P$	
Brand $Q$ Jenama $Q$	
Brand $R$ Jenama $R$	
Brand $S$ Jenama $S$	



Represents 50 handphones  
Mewakili 50 telefon bimbit

Diagram 12  
Rajah 12

The sales of brand  $Q$  represent 20% of the total sales.

Calculate the total sales of brand  $P$  and brand  $Q$ .

Jualan bagi jenama  $Q$  ialah 20% daripada jumlah jualan.

Hitung jumlah jualan bagi jenama  $P$  dan jenama  $Q$ .

- A 300  
 B 500  
 C 750  
 D 1250

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- 27 Table 1 shows the distribution of prices for an Additional Mathematics book bought by students of form Four Merkuri.

*Jadual 1 menunjukkan taburan harga buku Matematik Tambahan yang dibeli oleh murid tingkatan Empat Merkuri.*

<b>Price of book (RM)</b> <i>Harga buku (RM)</i>	8.75	8.80	9.00	9.25	9.60
<b>Number of students</b> <i>Bilangan murid</i>	5	7	7	7	4

Table 1  
*Jadual 1*

Calculate the mean price, in RM, of the book.

*Hitung min harga, dalam RM, buku itu.*

- A 9.00
- B 9.02
- C 9.05
- D 9.08


28 Diagram 13 shows the graph of function  $y = -\frac{1}{3}x^n - 9$ .

Rajah 13 menunjukkan graf untuk fungsi  $y = -\frac{1}{3}x^n - 9$ .

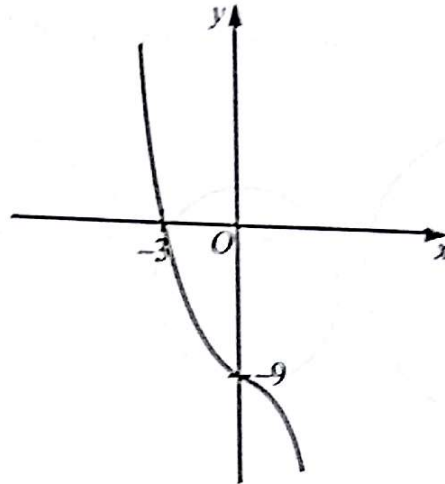


Diagram 13  
Rajah 13

State the value of  $n$ .

Nyatakan nilai  $n$ .

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

29 It is given that the universal set,  $\xi = \{x: 10 \leq x \leq 20, x \text{ is an integer}\}$  and  $R = \{x: x \text{ is a prime number}\}$ .

List all the elements of  $R$ .

Diberi bahawa set semesta,  $\xi = \{x: 10 \leq x \leq 20, x \text{ ialah integer}\}$  dan  $R = \{x: x \text{ ialah nombor perdana}\}$ .

Senaraikan semua unsur bagi  $R$ .

- A {11, 13, 17}
- B {11, 13, 15, 17}
- C {11, 13, 17, 19}
- D {11, 13, 15, 17, 19}

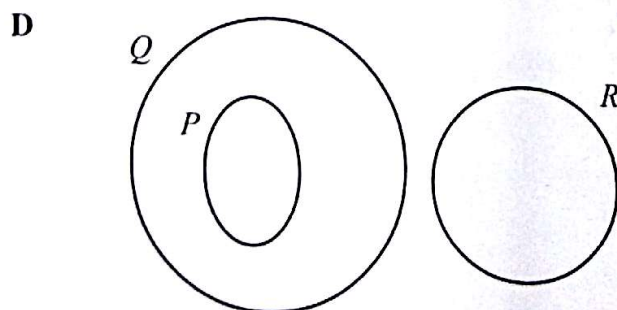
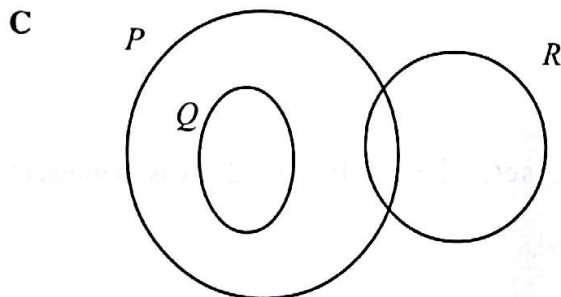
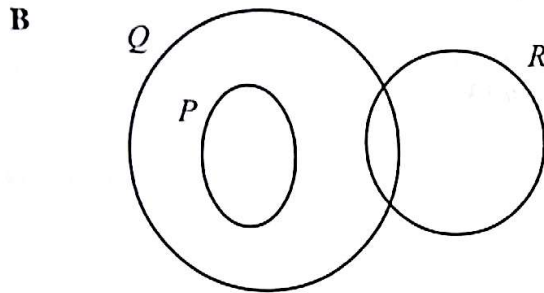
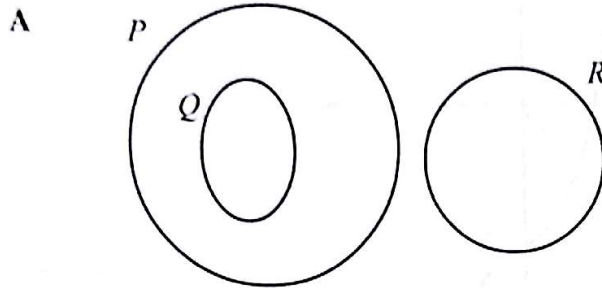
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30 It is given that the universal set,  $\xi = P \cup Q \cup R$ ,  $P \cup Q = P$ ,  $P \cap R = \phi$ .

Which Venn diagram represents these relationships?

Diberi bahawa set semesta,  $\xi = P \cup Q \cup R$ ,  $P \cup Q = P$ ,  $P \cap R = \phi$ .

Gambar rajah Venn manakah mewakili hubungan ini?

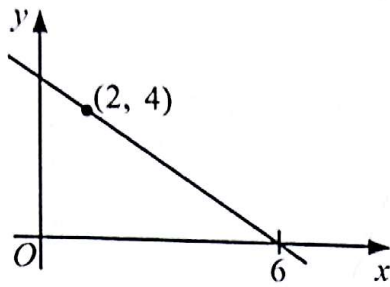




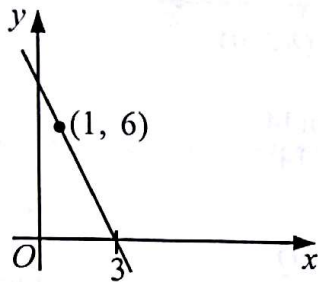
31 Which graph shows a straight line with a gradient of  $-3$ ?

Graf manakah yang menunjukkan garis lurus dengan kecerunan  $-3$ ?

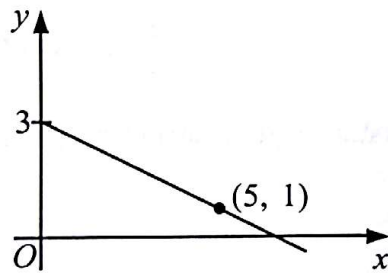
A



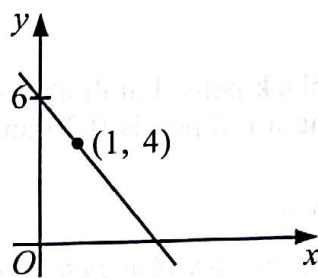
B



C



D



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- 32 Diagram 14 shows a straight line  $PQ$  drawn on a Cartesian plane. The gradient of the straight line is  $-4$ .

*Rajah 14 menunjukkan satu garis lurus  $PQ$  dilukis pada suatu satah Cartes. Kecerunan garis lurus itu ialah  $-4$ .*

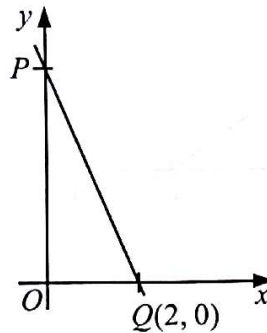


Diagram 14  
Rajah 14

Find the  $y$ -intercept of the straight line  $PQ$ .

*Cari pintasan- $y$  bagi garis lurus  $PQ$ .*

- A  $\frac{1}{8}$
- B  $\frac{1}{2}$
- C 2
- D 8
- 33 A box contains red pens, blue pens and black pens. Farah chooses a pen at random from the box. The probability of choosing a red pen is  $0.20$  and the probability of choosing a blue pen is  $0.35$ .

Find the probability of choosing a black pen.

*Sebuah kotak mengandungi pen merah, pen biru dan pen hitam. Farah memilih sebatang pen secara rawak daripada kotak itu. Kebarangkalian memilih sebatang pen merah ialah  $0.20$  dan kebarangkalian memilih pen biru ialah  $0.35$ .*

*Cari kebarangkalian memilih sebatang pen hitam.*

- A 0.15
- B 0.45
- C 0.55
- D 0.85

- 34 Table 2 shows the number of students who donate to flood victims. The number of students who donate RM5 is not shown.

*Jadual 2 menunjukkan bilangan murid yang menderma kepada mangsa banjir. Bilangan murid yang menderma RM5 tidak ditunjukkan.*

Donation (RM) <i>Derma (RM)</i>	Number of students <i>Bilangan murid</i>
5	
10	6
15	36

Table 2  
*Jadual 2*

A student is chosen at random from the group. The probability of choosing a student who donates RM5 is  $\frac{3}{10}$ .

Find the total number of students who donate to the flood victims.

*Seorang murid dipilih secara rawak daripada kumpulan itu. Kebarangkalian menderma RM5 ialah  $\frac{3}{10}$ .*

*Cari jumlah bilangan murid yang menderma kepada mangsa banjir.*

- A 20
- B 60
- C 120
- D 140

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35 Diagram 15 shows numbered cards.

*Rajah 15 menunjukkan kad-kad yang bernombor.*

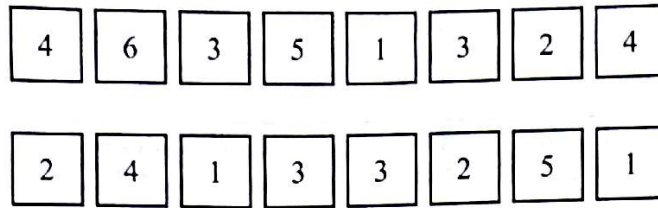


Diagram 15  
*Rajah 15*

A card is chosen at random.

State the probability that the card chosen is **not** the card numbered 3.

*Satu kad dipilih secara rawak.*

*Nyatakan kebarangkalian bahawa kad yang dipilih itu ialah **bukan** kad bernombor 3.*

A  $\frac{1}{3}$

B  $\frac{2}{3}$

C  $\frac{1}{4}$

D  $\frac{3}{4}$

- 36 Table 3 shows the daily trips of five buses from Kuala Lumpur to Kuantan which arrive on time at the station in a week.

*Jadual 3 menunjukkan perjalanan harian bagi lima buah bas dari Kuala Lumpur ke Kuantan dalam seminggu yang tiba di stesen dalam masa yang ditetapkan.*

Day <i>Hari</i>	Number of buses arrive on time <i>Bilangan bas tiba pada masa yang ditetapkan</i>
Monday <i>Isnin</i>	4
Tuesday <i>Selasa</i>	5
Wednesday <i>Rabu</i>	3
Thursday <i>Khamis</i>	4
Friday <i>Jumaat</i>	5
Saturday <i>Sabtu</i>	4
Sunday <i>Ahad</i>	3

Table 3  
*Jadual 3*

A trip is chosen at random.

Find the probability that the bus **did not** arrive on time at the station on that week.

*Satu perjalanan dipilih secara rawak.*

*Cari kebarangkalian bahawa bas **tidak** tiba di stesen dalam masa yang ditetapkan pada minggu tersebut.*

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

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- 37 It is given that  $p$  varies directly as the square of  $r$  and  $p = 6$  when  $r = 2$ .

Calculate the value of  $r$  when  $p = 96$ .

*Diberi bahawa  $p$  berubah secara langsung dengan kuasa dua  $r$  dan  $p = 6$  apabila  $r = 2$ .*

*Hitung nilai  $r$  apabila  $p = 96$ .*

A  $\frac{1}{8}$

B  $\frac{1}{2}$

C 8

D 12

- 38 It is given that  $w$  varies directly as  $y$  and inversely as cube root of  $z$ .

Find the relation between  $w$ ,  $y$  and  $z$ .

*Diberi bahawa  $w$  berubah secara langsung dengan  $y$  dan secara songsang dengan punca kuasa tiga  $z$ .*

*Cari hubungan antara  $w$ ,  $y$  dan  $z$ .*

A  $w = kyz^{\frac{1}{3}}$

B  $w = \frac{ky}{z^{\frac{1}{3}}}$

C  $w = \frac{kz}{y^{\frac{1}{3}}}$

D  $w = \frac{kz^{\frac{1}{3}}}{y}$

39 Which table represents the relation when  $y$  varies inversely as  $x$ ?

*Jadual manakah yang mewakili hubungan  $y$  berubah secara songsang dengan  $x$ ?*

A

$x$	$\frac{5}{2}$	$\frac{5}{4}$	$\frac{5}{8}$	$\frac{5}{16}$
$y$	4	8	16	32

B

$x$	$\frac{1}{8}$	$\frac{1}{16}$	$\frac{1}{32}$	$\frac{1}{64}$
$y$	$\frac{1}{2}$	$\frac{1}{4}$	$\frac{1}{8}$	$\frac{1}{16}$

C

$x$	2	3	4	5
$y$	4	6	8	10

D

$x$	3	1	$\frac{1}{2}$	$\frac{1}{4}$
$y$	2	6	12	18

40  $\begin{pmatrix} 2 & 3 \\ 5 & -2 \end{pmatrix} - 3\begin{pmatrix} -1 & 3 \\ 1 & 1 \end{pmatrix} + 2\begin{pmatrix} 2 & 6 \\ -2 & 3 \end{pmatrix} =$

A  $\begin{pmatrix} 3 & 6 \\ -2 & 1 \end{pmatrix}$

B  $\begin{pmatrix} 9 & 6 \\ -2 & 1 \end{pmatrix}$

C  $\begin{pmatrix} 9 & 9 \\ -2 & 1 \end{pmatrix}$

D  $\begin{pmatrix} 9 & 6 \\ -2 & 11 \end{pmatrix}$

END OF QUESTION PAPER  
KERTAS PEPERIKSAAN TAMAT