

SULIT
1449/1
Matematik
Kertas 1
Ogos/September
2010

1449/1



1¼ jam

MAKTAB RENDAH SAINS MARA

PEPERIKSAAN PERCUBAAN
SIJIL PELAJARAN MALAYSIA 2010

MATEMATIK

Kertas 1

Satu jam lima belas minit

1
4
4
9
1

JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIBERITAHU

1. *Kertas soalan 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 soalan ini*

Kertas soalan ini mengandungi 31 halaman bercetak dan 1 halaman tidak bercetak

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 biasa digunakan.

RELATIONS
PERKAITAN

1	$a^m \times a^n = a^{m+n}$	10	Pythagoras Theorem <i>Teorem Pithagoras</i>
2	$a^m \div a^n = a^{m-n}$		$c^2 = a^2 + b^2$
3	$(a^m)^n = a^{mn}$	11	$P(A) = \frac{n(A)}{n(S)}$
4	$A^{-1} = \frac{1}{ad - bc} \begin{pmatrix} d & -b \\ -c & a \end{pmatrix}$	12	$P(A') = 1 - P(A)$
5	Distance / jarak $= \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$	13	$m = \frac{y_2 - y_1}{x_2 - x_1}$
6	Midpoint / Titik tengah $(x, y) = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$	14	$m = -\frac{y - \text{intercept}}{x - \text{intercept}}$ $m = -\frac{\text{pintasan} - y}{\text{pintasan} - x}$
7	Average speed = $\frac{\text{distance travelled}}{\text{time taken}}$ <i>Purata laju = $\frac{\text{jarak yang dilalui}}{\text{masa yang diambil}}$</i>		
8	Mean = $\frac{\text{sum of data}}{\text{number of data}}$ <i>Min = $\frac{\text{hasil tambah nilai data}}{\text{bilangan data}}$</i>		
9	Mean = $\frac{\text{sum of (classmark} \times \text{frequency)}}{\text{sum of frequencies}}$ <i>Min = $\frac{\text{hasil tambah (nilai titik tengah kelas} \times \text{kekerapan)}}{\text{hasil tambah kekerapan}}$</i>		

SHAPES AND SPACE

BENTUK DAN RUANG

- 1 Area of trapezium = $\frac{1}{2} \times \text{sum of parallel sides} \times \text{height}$
Luas trapezium = $\frac{1}{2} \times \text{hasil tambah sisi selari} \times \text{tinggi}$
- 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 = $2\pi rt$
- 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 = $\pi r^2 t$
- 8 Volume of cone = $\frac{1}{3} \pi r^2 h$
Isipadu kon = $\frac{1}{3} \pi r^2 t$
- 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
Hasil tambah sudut pedalaman poligon
 $= (n - 2) \times 180^\circ$

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

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

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

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

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

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

$$15 \quad \text{Area of image} = k^2 \times \text{area of object}$$
$$\text{Luas imej} = k^2 \times \text{luas objek}$$

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HALAMAN KOSONG

- 1 Round off 979560 correct to three significant figures.
Bundarkan 979560 betul kepada tiga angka bererti.
- A 979
B 980
C 98000
D 980000
- 2 $5.8 \times 10^{-7} - \frac{7 \times 10^{-8}}{1.6 + 3 \times 10^{-2}}$
- A 5.37×10^{-7}
B 3.13×10^{-7}
C 1.12×10^{-6}
D 3.00×10^{-2}
- 3 The mass of an atom X is 2.7×10^{-23} g. Find the mass, in gram, of 6×10^{18} atoms X.
Jisim untuk satu atom X ialah 2.7×10^{-23} g. Hitungkan jisim, dalam gram, bagi 6×10^{18} atom X.
- A 1.62×10^{-4}
B 1.62×10^{-5}
C 1.62×10^{-3}
D 1.62×10^5
- 4 Given that $211_5 = x_8$, then $x =$
Diberi bahawa $211_5 = x_8$, maka $x =$
- A 56
B 70
C 137
D 323
- 5 Given that $101110_2 - m = 45_8$, find the value of m .
Diberi bahawa $101110_2 - m = 45_8$, carikan nilai m .
- A 101_2
B 1000_2
C 1001_2
D 1011_2

- 6 In Diagram 1, $PQRST$ is a regular pentagon. TUV and PRV are straight lines.
 Dalam Rajah 1, $PQRST$ ialah sebuah pentagon sekata. TUV dan PRV adalah garis lurus.

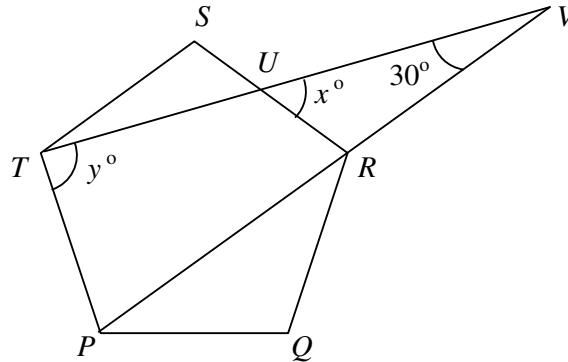


Diagram 1
Rajah 1

The value of $y - x =$
 Nilai $y - x =$

- A 6
 - B 18
 - C 33
 - D 36
- 7 In Diagram 2, $PQRSTU$ is a regular hexagon centred at O . PQW and TRW are straight lines.
 Dalam Rajah 2, $PQRSTU$ ialah sebuah heksagon sekata berpusat di O . PQW dan TRW adalah garis lurus.

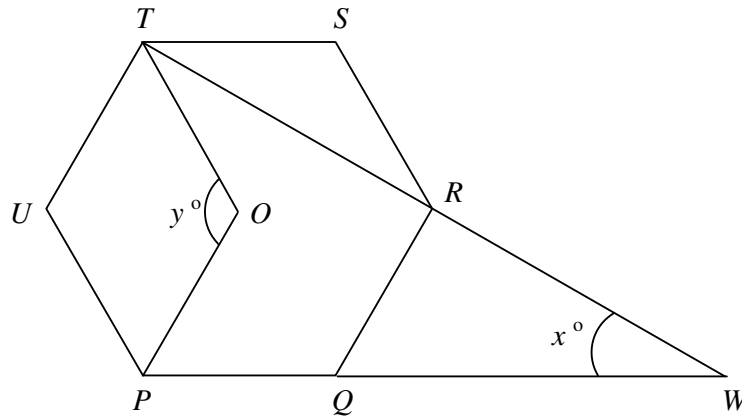


Diagram 2
Rajah 2

The value of $x + y =$
 Nilai $x + y =$

- A 120
- B 150
- C 165
- D 180

- 8 In Diagram 3, PQT is a tangent to the circle QRS at Q .
 Dalam Rajah 3, PQT ialah tangen kepada bulatan QRS di Q .

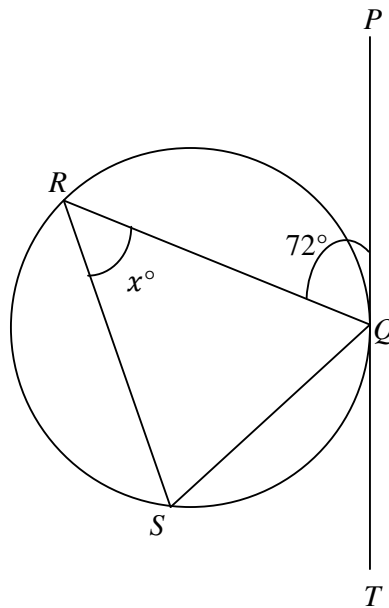


Diagram 3
Rajah 3

The length of arc QR is equal to the length of arc RS .
 Find the value of x .

*Panjang lengkok QR adalah sama dengan panjang lengkok RS .
 Cari nilai x .*

- A 18
- B 36
- C 54
- D 72

- 9 In Diagram 4, trapezium Q' is the image of trapezium Q under a translation. Point P' is the image of point P under the same translation.

Dalam Rajah 4, trapezium Q' ialah imej bagi trapezium Q di bawah suatu translasi. Titik P' ialah imej bagi titik P di bawah translasi yang sama.

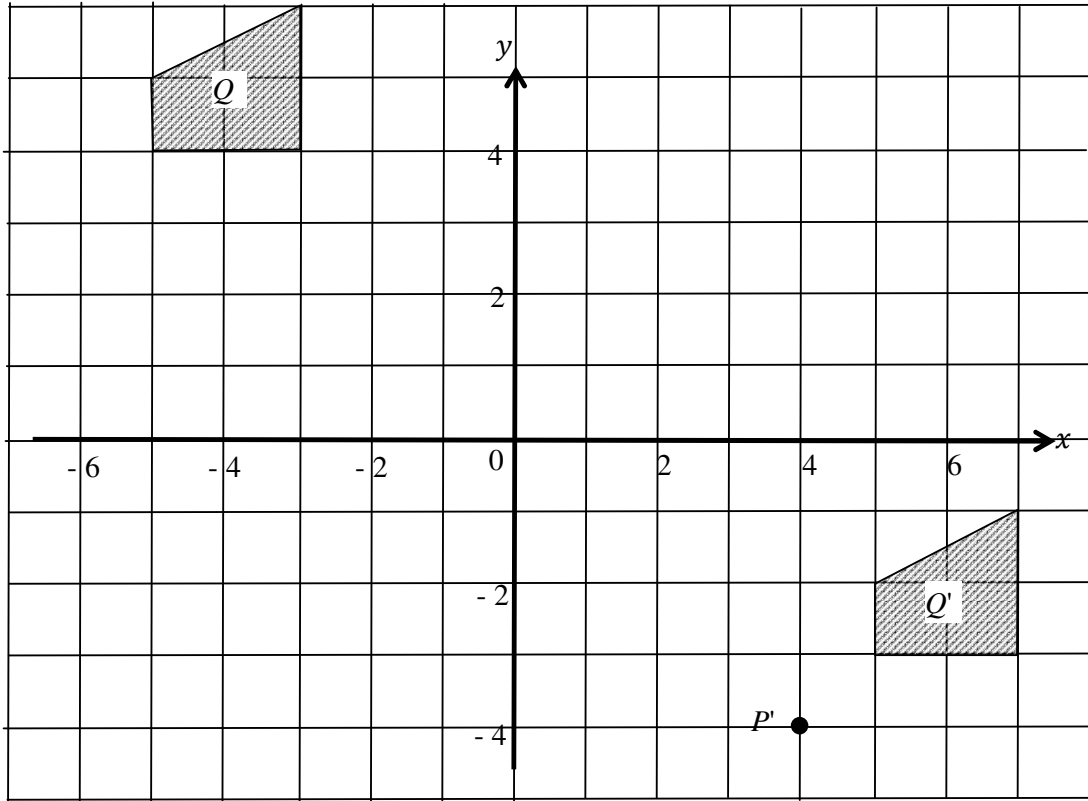


Diagram 4
Rajah 4

The coordinates of P is
Koordinat P ialah

- A (3, -4)
- B (-4, 2)
- C (-3, 6)
- D (-6, 3)

- 10 Diagram 5 shows triangle PQR and triangle TUR' drawn on square grids.

Rajah 5 menunjukkan segi tiga PQR dan segi tiga TUR' dilukis pada grid segi empat sama.

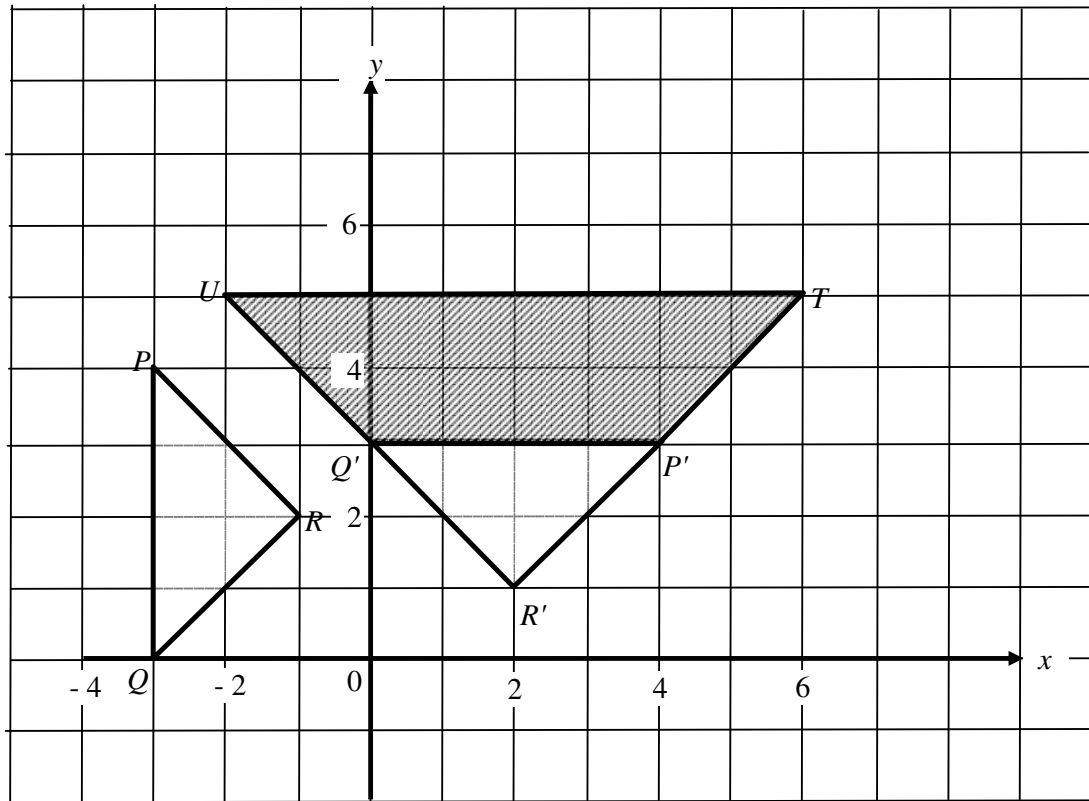


Diagram 5/ Rajah 5

TUR' is the image of PQR under the combined transformation MN . Which of the following describes transformation M and transformation N ?

TUR' ialah imej bagi PQR di bawah gabungan penjelmaan MN . Antara berikut, yang manakah menghuraikan penjelmaan M dan penjelmaan N ?

	N	M
A	Rotation 90° clockwise about the origin <i>Putaran 90° ikut arah jam pada asalan</i>	Enlargement at R' with scale factor 2 <i>Pembesaran pada R' dengan faktor skala 2</i>
B	Rotation 270° clockwise about the origin <i>Putaran 270° ikut arah jam pada asalan</i>	Enlargement at R' with scale factor $\frac{1}{2}$ <i>Pembesaran pada R' dengan faktor skala $\frac{1}{2}$</i>
C	Rotation 90° anti clockwise about the origin <i>Putaran 90° lawan arah jam pada asalan</i>	Enlargement at R' with scale factor 2 <i>Pembesaran pada R' dengan faktor skala 2</i>
D	Rotation 270° anti clockwise about the origin <i>Putaran 270° lawan arah jam pada asalan</i>	Enlargement at R' with scale factor $\frac{1}{2}$ <i>Pembesaran pada R' dengan faktor skala $\frac{1}{2}$</i>

- 11 In Diagram 6, $QRST$ is a straight line.
 Dalam Rajah 6, $QRST$ ialah garis lurus.

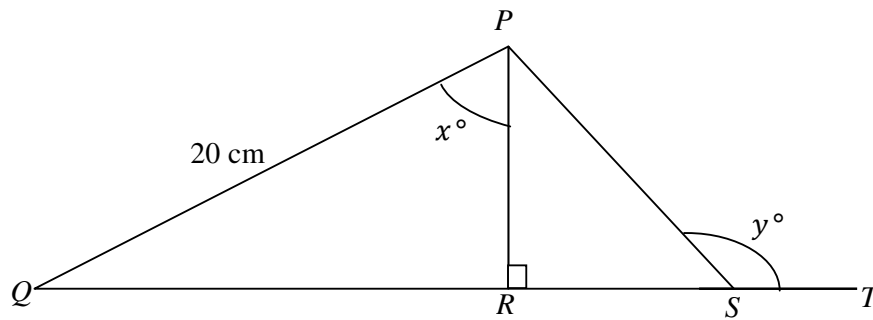


Diagram 6
 Rajah 6

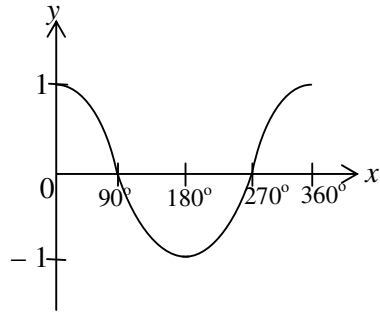
It is given that $\cos x^\circ = \frac{6}{10}$ and $\tan y^\circ = -3$. Calculate the length, in cm, of QS .

Diberi bahawa $\cos x^\circ = \frac{6}{10}$ dan $\tan y^\circ = -3$. Hitungkan panjang, dalam cm, bagi QS .

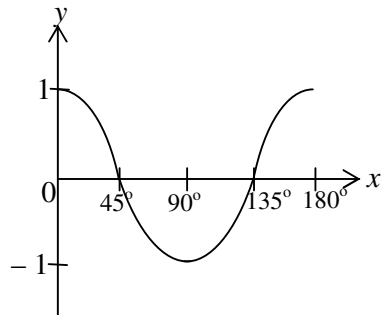
- A 10
- B 12
- C 20
- D 34

- 12 Which of the following graphs represents $y = \cos 2x$?
 Antara berikut yang manakah mewakili graf $y = \cos 2x$?

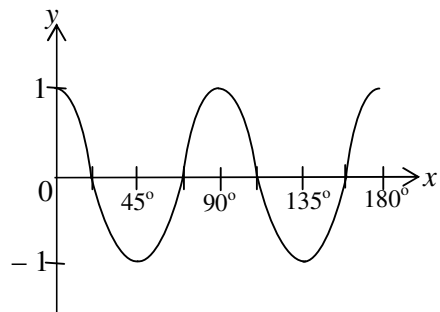
A



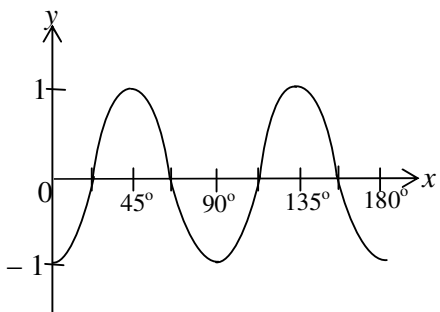
B



C



D



- 13 Diagram 7 shows three points L , M and N on a horizontal ground.
Rajah 7 menunjukkan tiga titik L , M dan N di atas satah mengufuk.

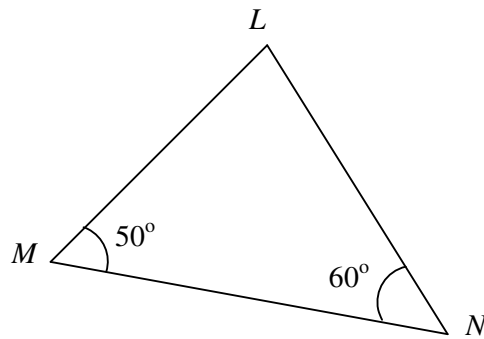


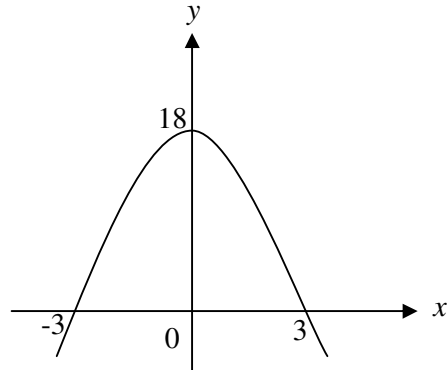
Diagram 7
Rajah 7

It is given that N is due east of M . Find the bearing of point N from point L .
Diberi bahawa N berada di timur M . Hitungkan bearing titik N dari titik L .

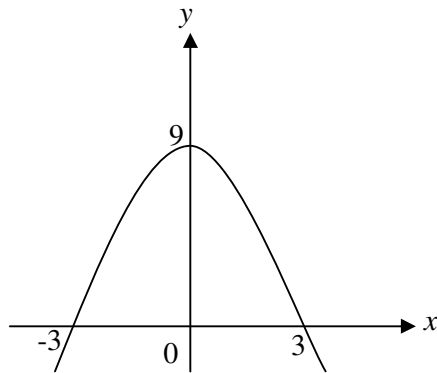
- A 070°
- B 130°
- C 150°
- D 330°

- 14 Which of the following graphs represents $y = -2(x + 3)(x - 3)$?
Antara berikut, yang manakah mewakili graf $y = -2(x+3)(x-3)$?

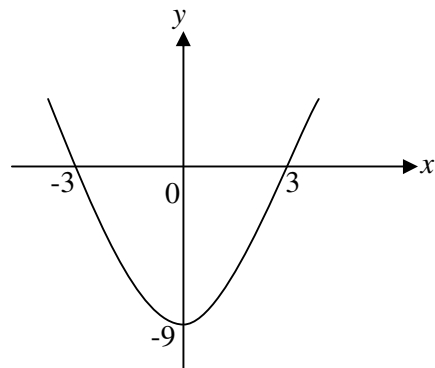
A



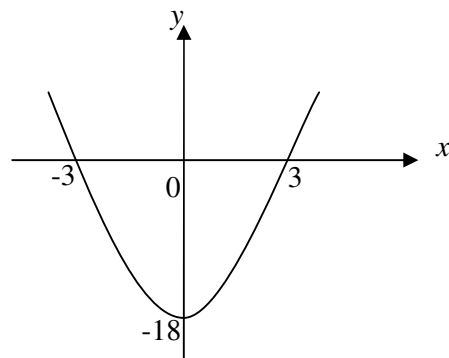
B



C



D



- 15 Diagram 8 shows a shaded region which satisfies three inequalities.
Rajah 8 menunjukkan satu rantau berlorek yang memuaskan tiga ketaksamaan.

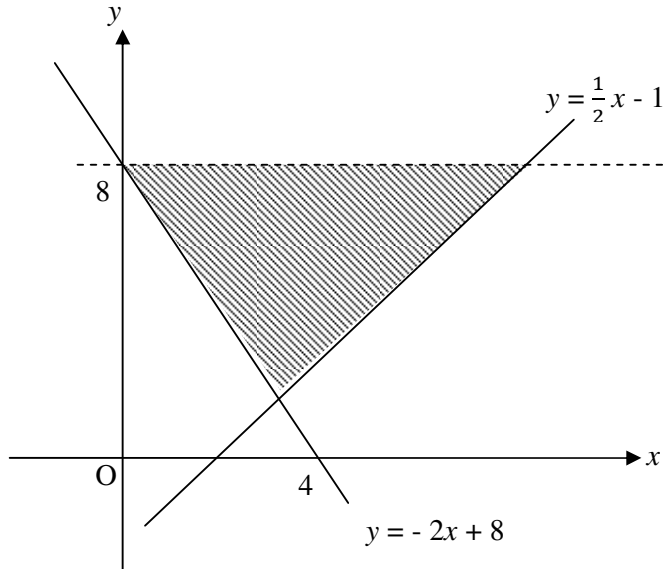


Diagram 8
Rajah 8

Which of the following sets of inequalities define the shaded region?
Antara set ketaksamaan berikut, yang manakah mentakrifkan rantau yang berlorek?

- A $y > 8, y > \frac{1}{2}x - 1, y \leq -2x + 8.$
- B $y \leq 8, y \leq \frac{1}{2}x - 1, y < -2x + 8.$
- C $y < 8, y \geq \frac{1}{2}x - 1, y \geq -2x + 8.$
- D $y \leq 8, y \geq \frac{1}{2}x - 1, y \geq -2x + 8.$

- 16 Diagram 9 shows a right angled triangular prism with a horizontal base $PQYX$.
Rajah 9 menunjukkan sebuah prisma segitiga tegak dengan tapak mengufuk $PQYX$.

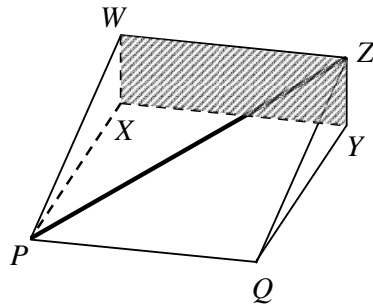


Diagram 9
Rajah 9

Name the angle between the line PZ and the plane $WXYZ$.
Namakan sudut di antara garis PZ dengan satah $WXYZ$.

- A $\angle PZW$
- B $\angle PZX$
- C $\angle PZY$
- D $\angle PXZ$

- 17 Diagram 10 shows a pyramid with a horizontal square base $PQRS$. The vertex T is vertically above point R .

Rajah 10 menunjukkan sebuah piramid dengan tapak segiempat sama $PQRS$. Bucu T berada tegak di atas titik R .

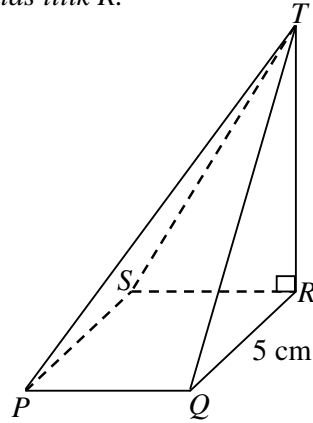


Diagram 10

Rajah 10

Given that $TQ = 8$ cm and $QR = 5$ cm. Calculate the angle between the plane PQT and the base $PQRS$.

Diberi $TQ = 8$ cm dan $QR = 5$ cm. Hitung sudut di antara satah PQT dengan tapak $PQRS$.

- A $38^\circ 41'$
- B $41^\circ 27'$
- C $51^\circ 19'$
- D 58°

- 18 In Diagram 11, VW and XY are two vertical poles on a horizontal plane.
 Dalam Rajah 11, VW dan XY adalah dua batang tiang tegak pada satah mengufuk.

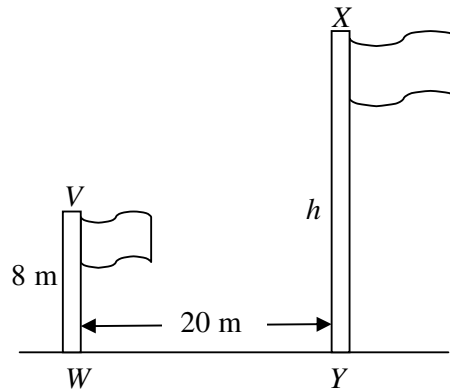


Diagram 11
 Rajah 11

The angle of depression of V from X is 42° and h is the height of pole XY .
 Calculate the value, in metres, of h .
 Sudut tunduk puncak V dari puncak X ialah 42° dan h ialah tinggi tiang XY .
 Hitung nilai, dalam meter, bagi h .

- A 18
 B 22.21
 C 26
 D 30.21
- 19 $p(6p + 5) - (2p + 1)(3p - 1) =$

- A $6p - 1$
 B $6p + 1$
 C $4p - 1$
 D $4p + 1$

20 Express $\frac{3}{m^2 - m} - \frac{4}{m}$ as a single fraction in its simplest form.

Ungkapkan $\frac{3}{m^2 - m} - \frac{4}{m}$ sebagai satu pecahan tunggal dalam bentuk termuda .

A $\frac{2(1 - 2m)}{m(m - 1)}$

B $\frac{-1 - 4m}{m(m - 1)}$

C $\frac{7 + 4m}{m(m - 1)}$

D $\frac{7 - 4m}{m(m - 1)}$

21 Given that $\frac{1}{p} = \frac{1}{r} + \frac{r}{q}$, express q in terms of p and r .

Diberi $\frac{1}{p} = \frac{1}{r} + \frac{r}{q}$, ungkapkan q dalam sebutan p dan r .

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

B $q = \frac{pr^2}{p - r}$

C $q = \frac{r - p}{pr^2}$

D $q = r(p - r)$

22 Given that $\frac{4y-1}{3} = -2(3-y)$, find the value of y .

Diberi $\frac{4y-1}{3} = -2(3-y)$, cari nilai y .

A $-\frac{19}{2}$

B $-\frac{17}{2}$

C $\frac{17}{2}$

D $\frac{19}{2}$

23 $n^{-\frac{2}{5}}$ can be written as

$n^{-\frac{2}{5}}$ boleh dinyatakan sebagai

A $\sqrt[5]{n^2}$

B $\sqrt{n^5}$

C $\frac{1}{\sqrt[5]{n^{-2}}}$

D $\frac{1}{\sqrt[5]{n^2}}$

24 $\frac{(3^4 \times 4^{-1})^{\frac{1}{2}}}{(9 \times 2^{-4})} =$

A 6

B 8

C 18

D 72

- 25 List all the integers t which satisfy both the inequalities $9 - 2t > 1$ and $t \geq 1 - \frac{t}{2}$.
 Senaraikan semua integer t yang memuaskan kedua-dua ketaksamaan $9 - 2t > 1$ dan $t \geq 1 - \frac{t}{2}$.

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

- 26 Diagram 12 is a line graph showing the number of cars sold in the first six months by Company X.
 Rajah 12 menunjukkan graph garis bagi jualan kereta untuk enam bulan pertama bagi Syarikat X.

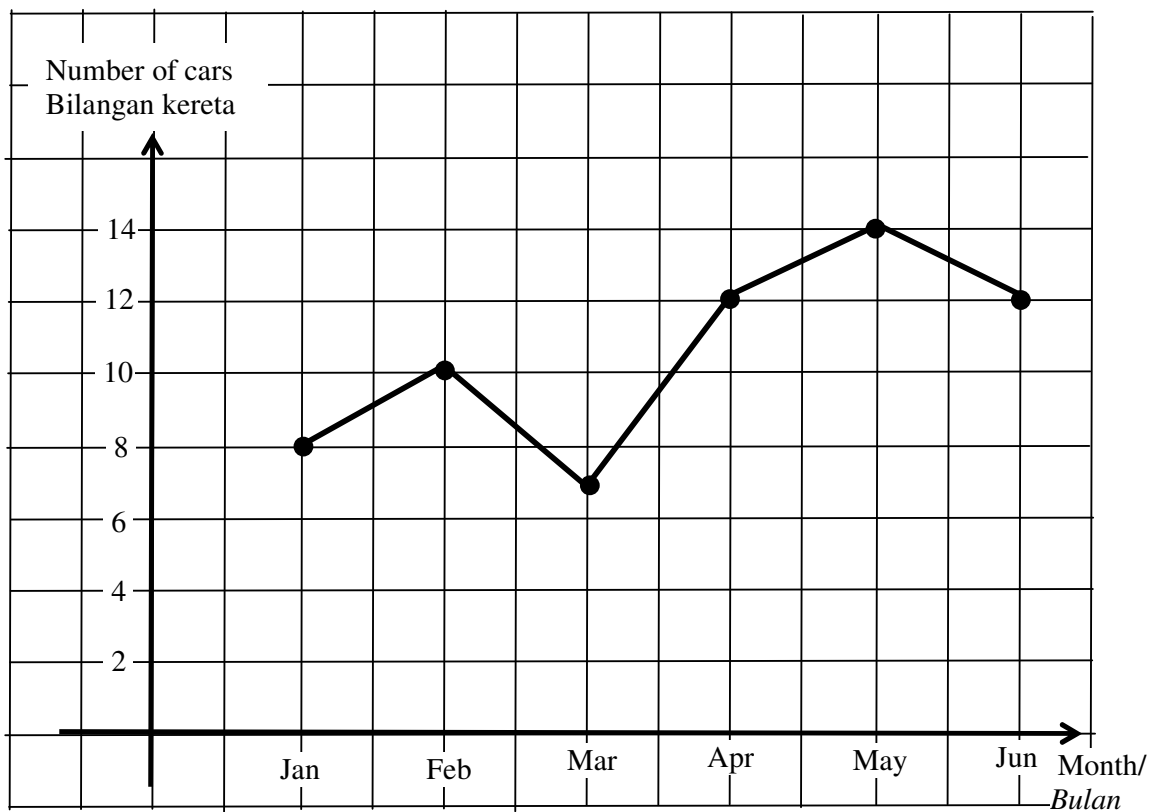


Diagram 12
 Rajah 12

Calculate the mean number of cars sold per month.
 Hitungkan min bilangan kereta yang dijual dalam satu bulan.

- A 10.5
 B 12
 C 12.6
 D 14

- 27 Table 1 is a cumulative frequency table which shows the scores obtained by a group of students in a game.

Jadual 1 ialah jadual kekerapan longgokan yang menunjukkan skor yang didapati oleh sekumpulan pelajar dalam suatu permainan.

Score <i>Skor</i>	1	2	3	4	5
Cumulative frequency <i>Kekerapan longgokan</i>	6	13	21	27	30

Table 1
Jadual 1

Find the number of students who scored less than the modal score.

Cari bilangan pelajar yang mendapat skor kurang daripada skor mod.

- A 6
B 13
C 21
D 27
- 28 Diagram 13 is a Venn diagram which shows the elements of set K , set L and set M .
Rajah 13 ialah gambar rajah Venn yang menunjukkan unsur-unsur bagi set K , set L dan set M .

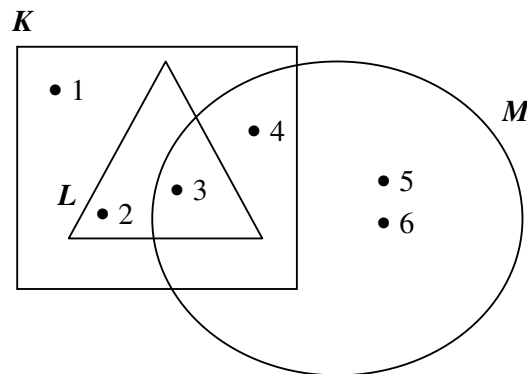


Diagram 13
Rajah 13

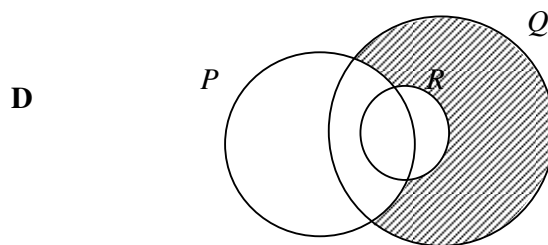
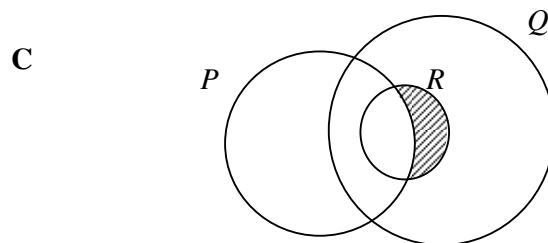
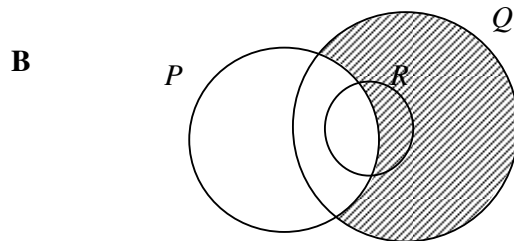
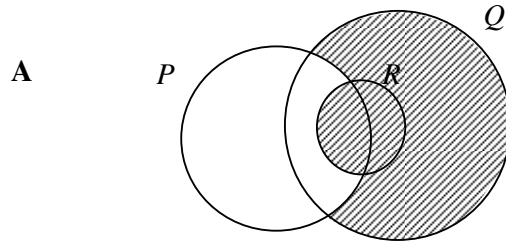
Given that the universal set, $\xi = K \cup L \cup M$, then set $L' \cap M$ is

Diberi bahawa set semesta, $\xi = K \cup L \cup M$, maka set $L' \cap M$ ialah

- A { 5, 6 }
B { 4, 5, 6 }
C { 1, 4, 5, 6 }
D { 2, 3, 4, 5, 6 }

- 29 Given that the universal set, $\xi = P \cup Q \cup R$, which of the shaded region in the Venn diagram shown below represents $P' \cup R$?

Diberi bahawa set semesta, $\xi = P \cup Q \cup R$, yang manakah di antara kawasan berlorek dalam gambar rajah Venn di bawah menunjukkan $P' \cup R$?



- 30 Diagram 14 is a Venn diagram showing the universal set, $\xi = \{ \text{Form Five students} \}$, set $H = \{ \text{Students who like reading} \}$ and set $K = \{ \text{Students who like surfing the internet} \}$

Rajah 14 ialah gambar rajah Venn yang menunjukkan set semesta, $\xi = \{ \text{Pelajar Tingkatan Lima} \}$, set $H = \{ \text{Pelajar yang suka membaca} \}$ dan set $K = \{ \text{Pelajar yang suka melayari internet} \}$

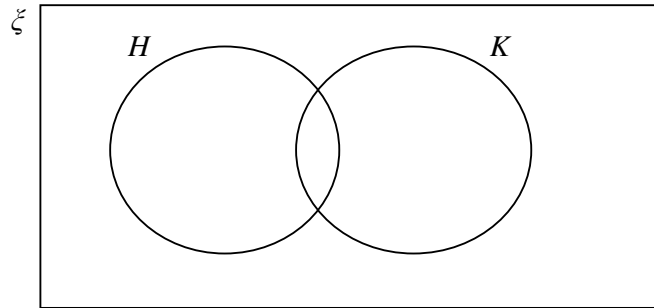


Diagram 14
Rajah 14

Given $n(\xi) = 200$, $n(H) = 70$, $n(K) = 56$, $n(H \cap K) = 14$, find the number of students who do not like reading or surfing the internet.

Diberi $n(\xi) = 200$, $n(H) = 70$, $n(K) = 56$, $n(H \cap K) = 14$, cari bilangan pelajar yang tidak suka membaca atau melayari internet.

- A 60
- B 74
- C 88
- D 112

- 31 In the Diagram 15, RST is a straight line drawn on a Cartesian plane.
Dalam Rajah 15, RST ialah satu garis lurus yang dilukis pada satah Cartesian.

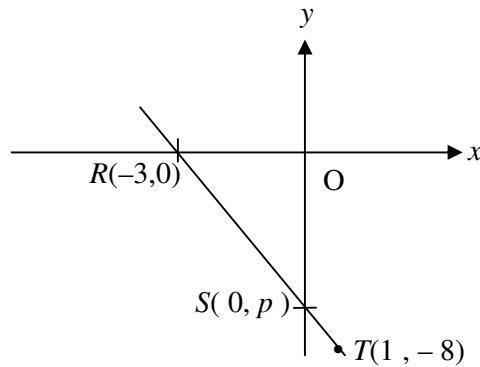


Diagram 15
Rajah 15

- The value of p is
Nilai p ialah
- A -3
 B -4
 C -5
 D -6
- 32 Find the equation of the straight line which is parallel to the line $\frac{x}{3} + \frac{y}{2} = 1$ and passes through the point $(0, 5)$.
Cari persamaan garis lurus yang selari dengan garis $\frac{x}{3} + \frac{y}{2} = 1$ dan melalui titik $(0, 5)$.
- A $y = -\frac{2}{3}x + 5$
 B $y = -\frac{3}{2}x + 5$
 C $y = \frac{2}{3}x + 5$
 D $y = \frac{3}{2}x + 5$

- 33 A basket contains 12 purple balls and a number of blue balls. A ball is picked at random from the basket. The probability of picking a purple ball is 0.6. Find the number of blue balls in the basket.

Sebuah bakul mengandungi 12 biji bola ungu dan beberapa biji bola biru. Sebiji bola dipilih secara rawak daripada bakul itu. Kebarangkalian mendapat bola ungu ialah 0.6. Cari bilangan bola biru dalam bakul itu.

- A 8
 B 18
 C 20
 D 30
- 34 Table 2 shows the number of passengers in a bus. A passenger is selected at random. *Jadual 2 menunjukkan bilangan penumpang sebuah bas. Seorang penumpang telah dipilih secara rawak.*

	Female <i>Perempuan</i>	Male <i>Lelaki</i>
Child <i>Kanak-kanak</i>	4	6
Adult <i>Dewasa</i>	7	3

Table 2
Jadual 2

Find the probability of choosing a child.
Cari kebarangkalian memilih seorang kanak-kanak.

- A $\frac{1}{5}$
 B $\frac{6}{25}$
 C $\frac{3}{10}$
 D $\frac{1}{2}$

35 Given $2\begin{pmatrix} 4 & p \\ 1 & 6 \end{pmatrix} + \begin{pmatrix} -1 & -2 \\ 5 & -7 \end{pmatrix} = \begin{pmatrix} 7 & 4 \\ 7 & 5 \end{pmatrix}$, find the value of p .

Diberi $2\begin{pmatrix} 4 & p \\ 1 & 6 \end{pmatrix} + \begin{pmatrix} -1 & -2 \\ 5 & -7 \end{pmatrix} = \begin{pmatrix} 7 & 4 \\ 7 & 5 \end{pmatrix}$, cari nilai bagi p .

- A 1
- B 2
- C 3
- D 6

36 $(2 \ 3)\begin{pmatrix} -1 & 8 \\ 2 & -6 \end{pmatrix} =$

- A $(4 \ -2)$
- B $(-20 \ -8)$
- C $\begin{pmatrix} 4 \\ -2 \end{pmatrix}$
- D $\begin{pmatrix} -2 & 16 \\ 6 & -18 \end{pmatrix}$

- 37 In Diagram 16, N is the North Pole, S is the South Pole and NOS is the axis of the earth.

Dalam Rajah 16, U ialah Kutub Utara, S ialah Kutub Selatan dan UOS ialah paksi bumi.

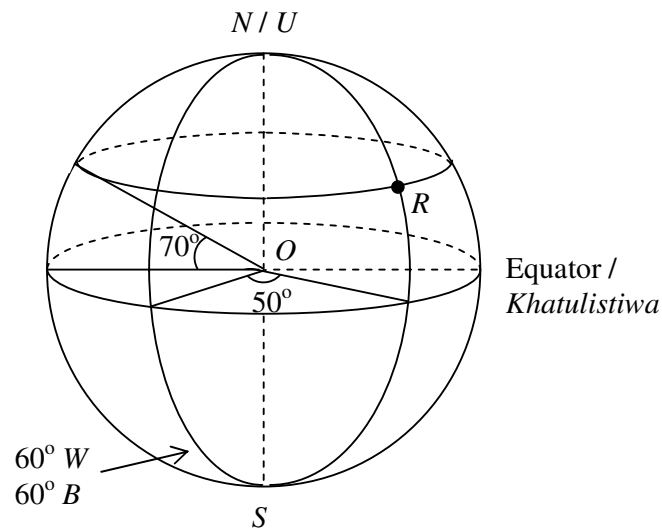


Diagram 16
Rajah 16

The position of the point R is
Kedudukan titik R ialah

- A** $(70^\circ N, 10^\circ E)$
 $(70^\circ U, 10^\circ T)$
- B** $(70^\circ N, 50^\circ E)$
 $(70^\circ U, 50^\circ T)$
- C** $(70^\circ N, 10^\circ W)$
 $(70^\circ U, 10^\circ B)$
- D** $(70^\circ N, 110^\circ E)$
 $(70^\circ U, 110^\circ T)$

- 38 In Diagram 17, X and Y are two points on the surface of the earth.
Dalam Rajah 17, X dan Y adalah dua titik di atas permukaan bumi.

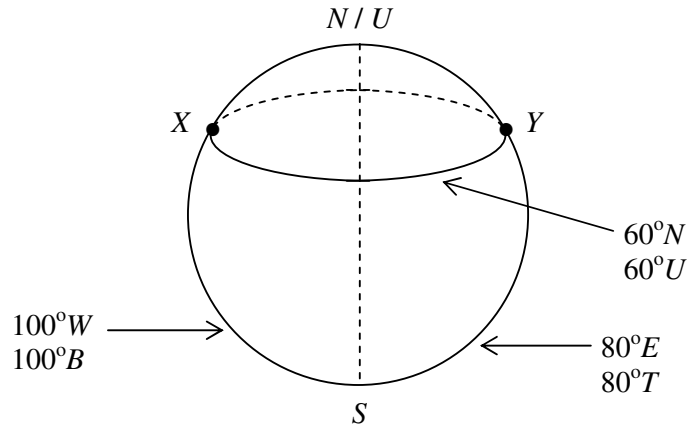


Diagram 17
Rajah 17

Calculate the shortest distance, in nautical miles, from X to Y .
Hitungkan jarak terpendek, dalam batu nautika, dari X ke Y .

- A 1800
 B 3600
 C 5400
 D 7200
- 39 It is given that u varies inversely as the square root of v and $u = 9$ when $v = 4$.
 Find the relation between u and v .

Diberi bahawa u berubah secara songsang dengan punca kuasa dua v dan $u = 9$ apabila $v = 4$. Cari hubungan antara u dan v .

- A $u = \frac{12}{\sqrt{v}}$
 B $u = \frac{18}{\sqrt{v}}$
 C $u = \frac{36}{\sqrt{v}}$
 D $u = \frac{144}{\sqrt{v}}$

40 It is given that $P \propto \frac{G^2}{\sqrt{H}}$ and $P = 2$ when $G = \frac{1}{3}$ and $H = 4$.

Calculate the value of H when $P = 9$ and $G = \frac{1}{4}$.

Diberi bahawa $P \propto \frac{G^2}{\sqrt{H}}$ dan $P = 2$ apabila $G = \frac{1}{3}$ dan $H = 4$

Hitungkan nilai H apabila $P = 9$ dan $G = \frac{1}{4}$.

- A $\frac{1}{4}$
- B $\frac{1}{2}$
- C $\frac{3}{4}$
- D $\frac{1}{16}$

END OF QUESTION PAPER
KERTAS SOALAN TAMAT

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. Answer each question by blackening the correct space on the objective answer sheet.
Jawab setiap soalan dengan menghitamkan ruangan yang betul pada kertas jawapan objektif.
4. Blacken only **one** space for each question.
Hitamkan satu ruangan sahaja bagi setiap soalan.
5. If you wish to change your answer, erase the blackened mark that you have done. Then blacken the space for the new answer.
Sekiranya anda hendak menukar jawapan, padamkan tanda yang telah dibuat. Kemudian hitamkan jawapan yang baru.
5. The diagrams in the questions provided are not drawn to scale unless stated.
Rajah yang mengiringi soalan tidak dilukis mengikut skala kecuali dinyatakan.
6. A list of formulae is provided on pages 2 to 4.
Satu senarai rumus disediakan di halaman 2 hingga 4.
7. A booklet of four-figure mathematical tables is provided.
Sebuah buku sifir matematik empat angka disediakan.
8. You may use a non-programmable scientific calculator.
Anda dibenarkan menggunakan kalkulator saintifik yang tidak boleh diprogram.