

- 7 Diberi $B = \begin{pmatrix} 5 & -2 \\ 1 & 6 \end{pmatrix}$ dan $BY = \begin{pmatrix} 11 \\ 15 \end{pmatrix}$.
 Given $B = \begin{pmatrix} 5 & -2 \\ 1 & 6 \end{pmatrix}$ and $BY = \begin{pmatrix} 11 \\ 15 \end{pmatrix}$.

Antara berikut, yang manakah **benar**?
 Which of the following is **true**?

| | Peringkat matriks Y Order of matrix Y | Unsur Y_{11} . Element Y_{11} . |
|---|--|--|
| A | 2×1 | -3 |
| B | 2×2 | 2 |
| C | 2×2 | -2 |
| D | 2×1 | 3 |

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

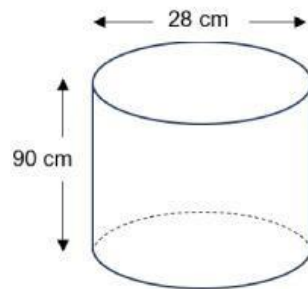
A $\begin{pmatrix} -10 & 4 \\ -6 & 16 \end{pmatrix}$

C $\begin{pmatrix} -6 \\ 10 \end{pmatrix}$

B $\begin{pmatrix} -10 & -2 \\ 12 & 16 \end{pmatrix}$

D $\begin{pmatrix} 14 \\ 22 \end{pmatrix}$

- 9 Rajah 1 menunjukkan sebuah silinder yang kosong dengan ketinggian 90 cm dan diameter 28 cm. Raziq memasukkan air ke dalam silinder itu sehingga penuh.
 Diagram 1 shows an empty cylinder with the height is 90 cm and the diameter 28 cm. Raziq fills up the cylinder full with water.



Rajah 1 / Diagram 1

Hitungkan isipadu air, dalam cm^3 , yang perlu dimasukkan ke dalam tiga bekas silinder yang sama saiz.

Calculate the volume of water, in cm^3 , needed to fill up three cylinders of the same size.

(Guna / Use $\pi = \frac{22}{7}$)

A 55 440

C 221 760

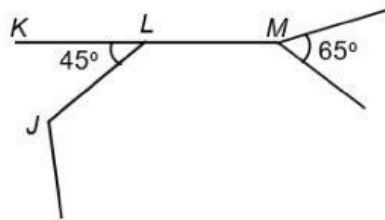
B 166 320

D 665 280

- 12 Sebuah kotak mengandungi 50 biji buah mangga. 15 daripadanya didapati sudah rosak. Apakah peratusan buah mangga rosak dalam kotak itu.
A box contains 50 mangoes. 15 of them were found to be damaged. What percentage of mangoes are spoiled in the box.

| | | | |
|----------|------|----------|------|
| A | 10 % | C | 30 % |
| B | 15 % | D | 35 % |

- 13 Rajah 4 menunjukkan JLM adalah sebahagian daripada poligon sekata. KLM ialah garis lurus.
Diagram 4 shows JLM is part of a regular polygon. KLM is a straight line.



Rajah 4 / Diagram 4

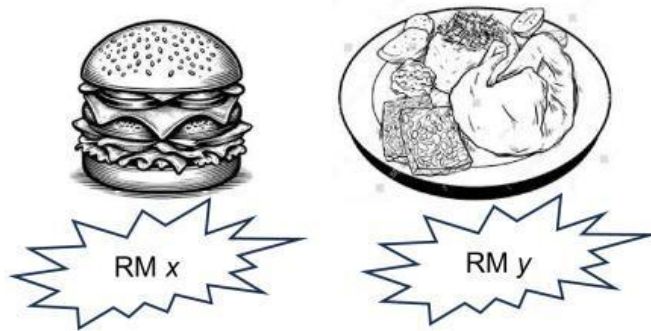
Cari bilangan sisi poligon tersebut.
Find the number of sides of the polygon.

| | | | |
|----------|---|----------|---|
| A | 5 | C | 7 |
| B | 6 | D | 8 |

- 14 Tentukan punca bagi persamaan kuadratik $2x^2 - x = 6$.
Find the root for the following quadratic equation $2x^2 - x = 6$.

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

- 17 Rajah 7 menunjukkan harga bagi dua jenis makanan di sebuah kedai makan. Seorang pelanggan membayar RM30 untuk 3 set burger dan 4 set nasi ayam. *Diagram 7 shows the prices of two types of food at a restaurant. A customer pays RM30 for 3 sets of burgers and 4 sets of chicken rice.*



Rajah 7 / Diagram 7

Ungkapkan y dalam sebutan x .
Express y in terms of x .

A $y = \frac{30 - 3x}{4}$

B $y = \frac{3x - 30}{4}$

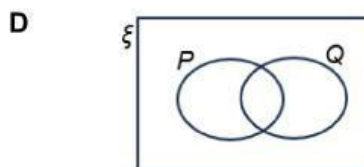
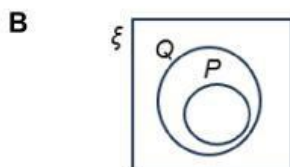
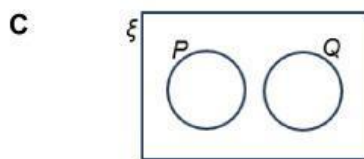
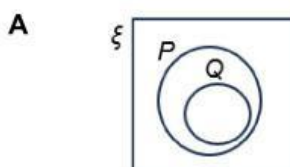
C $y = \frac{30 - 4x}{3}$

D $y = \frac{4x - 30}{3}$

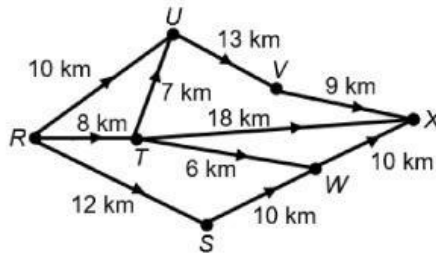
- 18 Diberi bahawa set semesta, $\xi = \{2, 3, 4, 5, 6, 7, 8, 9, 10, 11\}$, set $P = \{\text{nombor genap}\}$ dan set $Q = \{\text{nombor perdana}\}$. Antara gambar rajah Venn berikut, yang manakah mewakili hubungan untuk set-set tersebut?

Given that universal set, $\xi = \{2, 3, 4, 5, 6, 7, 8, 9, 10, 11\}$, set $P = \{\text{even numbers}\}$ and set $Q = \{\text{prime numbers}\}$.

Which of the following Venn diagrams represents the relationship for the sets?



- 19 Rajah 8 menunjukkan graf terarah dan berpemberat yang menghubungkan 7 buah kilang.
Diagram 8 shows a directed and weighted graph connecting 7 factories.



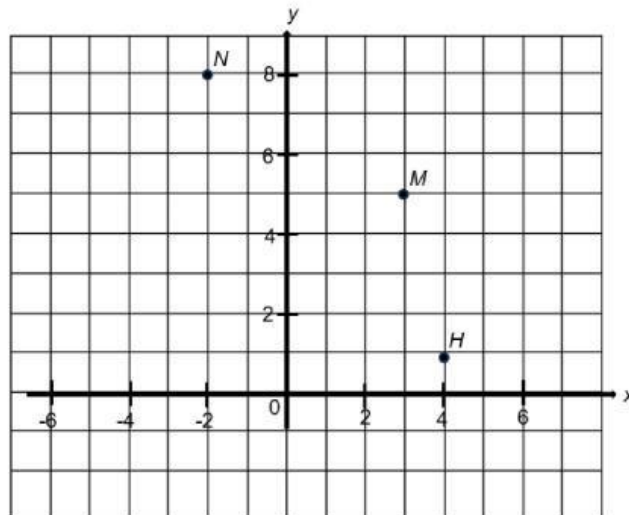
Rajah 8 / Diagram 8

Aizam memandu van untuk menghantar barang dari kilang R ke kilang X. Tentukan laluan van Aizam, jika dia ingin menggunakan laluan yang terpendek untuk sampai ke kilang X.

Aizam drives a van to deliver goods from factory R to factory X. Determine the route of Aizam's van, if he wants to take the shortest route to reach factory X.

- | | | | |
|----------|---|----------|---|
| A | $R \rightarrow S \rightarrow W \rightarrow X$ | C | $R \rightarrow U \rightarrow V \rightarrow X$ |
| B | $R \rightarrow T \rightarrow W \rightarrow X$ | D | $R \rightarrow T \rightarrow X$ |

- 20 Rajah 9 menunjukkan objek M dipetakan kepada kedudukan N di bawah suatu translasi.
Diagram 9 shows object M is mapped onto position N under a translation.

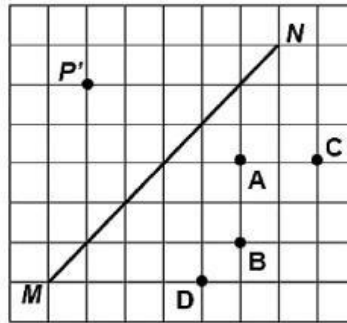


Rajah 9 / Diagram 9

Tentukan kedudukan imej bagi H di bawah translasi yang sama.
Determine the position of image H under the same translation.

- | | | | |
|----------|-----------|----------|-----------|
| A | $(4, -1)$ | C | $(-1, 4)$ |
| B | $(1, -4)$ | D | $(-4, 1)$ |

- 21 Dalam Rajah 10, MN ialah garis lurus.
In Diagram 10, MN is a straight line.



Rajah 10 / Diagram 10

Antara titik **A**, **B**, **C** dan **D**, yang manakah ialah objek bagi imej P' di bawah pantulan pada garis MN ?

*Among points **A**, **B**, **C** and **D**, which is the object for image P' under a reflection on line MN ?*

- 22 Berikut menunjukkan sebahagian daripada suatu hujah.
The following shows part of an argument.

Premis 1 : Hasil tambah sudut pedalaman poligon n sisi ialah $(n - 2) \times 180^\circ$.

Premise 1 : The sum of interior angles of a n -sided polygon is $(n - 2) \times 180^\circ$.

Premis 2 : W ialah sebuah poligon 7 sisi.

Premise 2 : W is a 7-sided polygon.

Tentukan hasil tambah sudut pedalaman poligon W .

Determine the sum of interior angles of polygon W .

A 900°

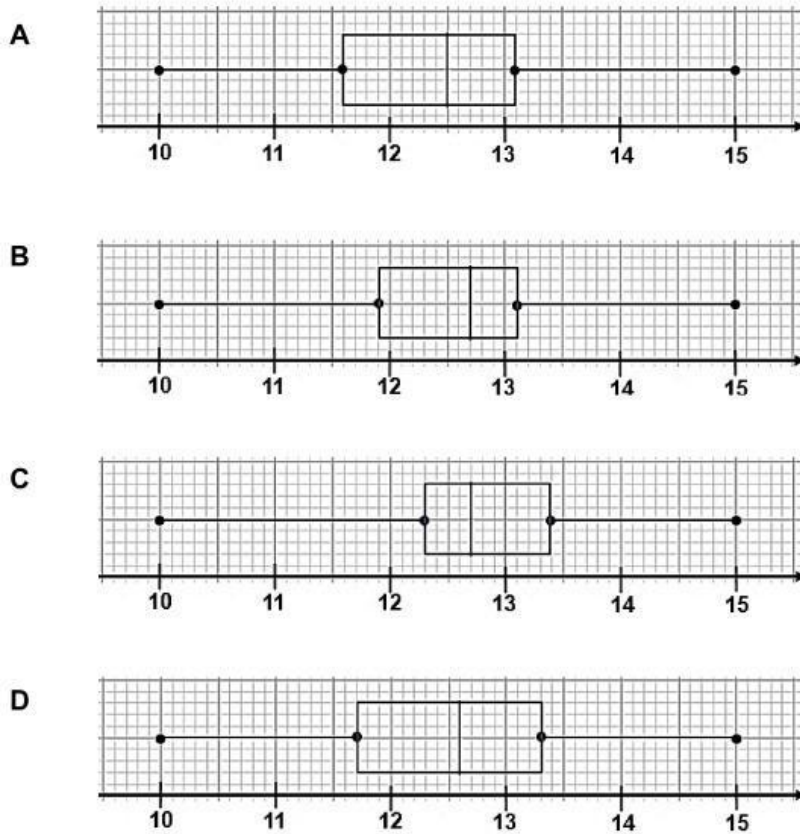
C 540°

B 720°

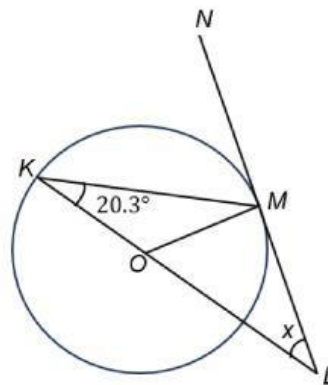
D 360°

- 23 Julat antara kuartil yang diperolehi daripada satu ogif ialah 1.6. Seorang murid melukis satu plot kotak berdasarkan ogif tersebut. Antara berikut, yang manakah plot kotak yang betul dilukis oleh murid itu?

The interquartile range obtained from an ogive is 1.6. A student draws a box plot based on the ogive. Which of the following is the correct box plot drawn by the student?



- 24 Rajah 11 menunjukkan sebuah bulatan berpusat di O . LMN ialah tangen kepada bulatan. Diberi $\angle LKM = 20.3^\circ$ dan KOL ialah garis lurus.
Diagram 11 shows a circle centered at O . LMN is tangent to the circle. Given that $\angle LKM = 20.3^\circ$ and KOL is a straight line.



Rajah 11 / Diagram 11

Cari nilai x .
 Find the value of x .

- | | | | |
|----------|----------------|----------|----------------|
| A | $49^\circ 24'$ | C | $49^\circ 42'$ |
| B | $59^\circ 42'$ | D | $59^\circ 24'$ |

- 27 Encik Rashid telah membuat pinjaman peribadi sebanyak RM50 000 daripada sebuah bank. Pihak bank telah mengenakan kadar faedah 5% setahun. Hitung bayaran ansuran bulanan jika tempoh pinjaman ialah 9 tahun.

Encik Rashid has made a personal loan of RM50 000 from a bank. The bank has charged an interest rate of 5% per annum. Calculate the monthly installment if the loan period is 9 years.

- | | | | |
|----------|----------|----------|------------|
| A | RM208.33 | C | RM1 875.00 |
| B | RM671.30 | D | RM2 500.00 |

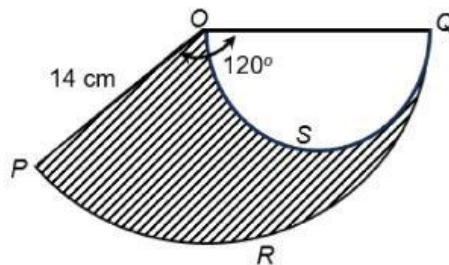
- 28 Ungkapkan $\frac{2x+6}{y-3} \div \frac{2(x+3)^2}{y^2-9}$ sebagai pecahan tunggal dalam bentuk termudah.

Express $\frac{2x+6}{y-3} \div \frac{2(x+3)^2}{y^2-9}$ as a single fraction in its simplest form.

- | | | | |
|----------|-------------------|----------|-------------------|
| A | $\frac{y+3}{x+3}$ | C | $\frac{y-3}{x+3}$ |
| B | $\frac{x+3}{y+3}$ | D | $\frac{y-3}{x-3}$ |

- 29 Rajah 13 menunjukkan sebuah sektor OPRQ bagi bulatan yang berpusat di O dan OQS ialah sebuah semibulatan.

Diagram 13 shows a sector OPRQ of a circle with centre O and OQS is a semicircle.



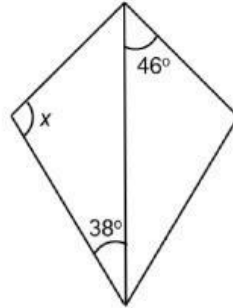
Rajah 13 / Diagram 13

Hitung luas kawasan yang berlorek.

Calculate the area of the shaded region.

- | | | | |
|----------|-----------------|----------|------------------|
| A | $21\frac{1}{3}$ | C | $128\frac{1}{3}$ |
| B | $57\frac{1}{3}$ | D | $205\frac{1}{3}$ |

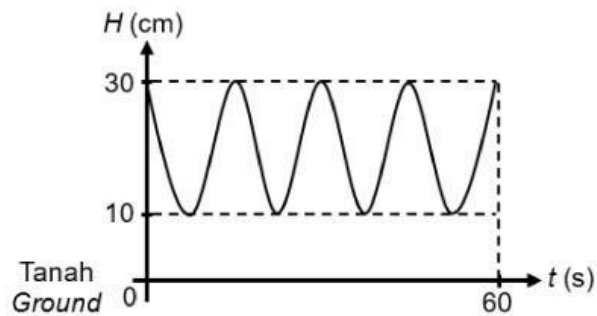
- 30 Rajah 14 menunjukkan satu layang.
 Diagram 14 shows a kite.



Rajah 14 / *Diagram 14*

Cari nilai x .
 Find the value of x .

- | | | | |
|----------|------------|----------|-------------|
| A | 84° | C | 96° |
| B | 88° | D | 104° |
- 31 Rajah 15 menunjukkan suatu graf fungsi trigonometri yang mewakili tinggi pedal basikal daripada tanah, H dengan masa, t .
 Diagram 15 shows a trigonometric function that represents the height of the bicycle pedal from the ground, H and with, t .

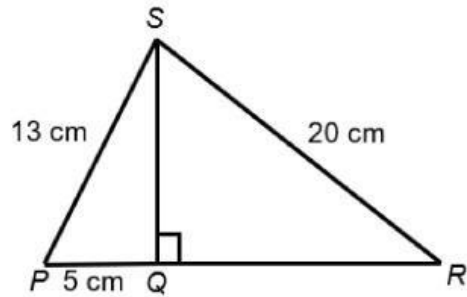


Rajah 15 / *Diagram 15*

Apakah fungsi trigonometri yang mewakili graf itu?
 What is the trigonometric function that represents the graph?

- | | | | |
|----------|------------------------|----------|------------------------|
| A | $H = 20 \cos 60t + 10$ | C | $H = 20 \sin 60t + 10$ |
| | $H = 20 \cos 60t + 10$ | | $H = 20 \sin 60t + 10$ |
| B | $H = 10 \cos 24t + 20$ | D | $H = 10 \sin 24t + 20$ |
| | $H = 10 \cos 24t + 20$ | | $H = 10 \sin 24t + 20$ |

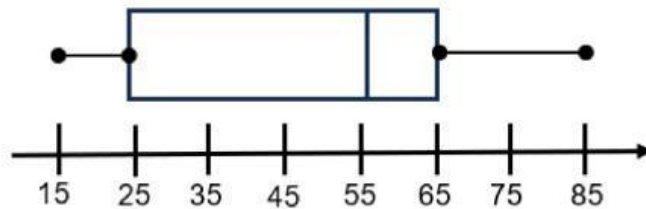
- 36 Rajah 16 menunjukkan dua buah segi tiga bersudut tegak SPQ dan SQR .
Diagram 16 shows two right-angled triangles SPQ and SQR .



Rajah 16 / Diagram 16

Hitung panjang PR .
Calculate the length of PR .

- | | | | |
|----------|-------|----------|-------|
| A | 12 cm | C | 21 cm |
| B | 16 cm | D | 32 cm |
- 37 Rajah 17 menunjukkan sebuah plot kotak.
Diagram 17 shows a box plot.



Rajah 17 / Diagram 17

Nyatakan nilai kuartil ketiga.
State the value of third quartile.

- | | | | |
|----------|----|----------|----|
| A | 25 | C | 55 |
| B | 40 | D | 65 |