

1449/1
MATEMATIK
KERTAS 1
1 JAM 30 MINIT
JULAI 2026

NAMA :

KELAS :



**MODUL PINTAS PEPERIKSAAN PERCUBAAN SPM
TINGKATAN 5
TAHUN 2026**

MATEMATIK
Kertas 1
Satu jam tiga puluh minit

JANGAN BUKA KERTAS SOALAN INI SEHINGGA DIBERITAHU

Arahan: Kertas soalan ini mengandungi 40 soalan. Jawab semua soalan. Setiap jawapan diikuti dengan empat pilihan jawapan, A, B, C dan D. Bagi setiap soalan, pilih satu jawapan sahaja. Penggunaan kalkulator yang tidak boleh diprogramkan adalah dibenarkan.

Instructions: This question paper consists of 40 questions. Answer all questions. Each question is followed by four choices of answers, A, B, C and D. For each question, choose one answer only. The use of non-programmable calculators is allowed.

Kertas soalan ini mengandungi 39 halaman bercetak dan 1 halaman tidak bercetak.

RUMUS MATEMATIK MATHEMATICAL FORMULAE

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

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

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 $a^{\frac{m}{n}} = (a^m)^{\frac{1}{n}}$
- 5 Faedah mudah / *Simple interest*, $I = Prt$
- 6 Faedah kompaun / *Compound interest*, $MV = P\left(1 + \frac{r}{n}\right)^n$
- 7 Jumlah bayaran balik / *Total repayment*, $A = P + Prt$

PERKAITAN DAN ALGEBRA RELATIONSHIP AND ALGEBRA

- 1 Jarak / *Distance* = $\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$
- 2 Titik tengah / *Midpoint*, $(x, y) = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2}\right)$
- 3 Laju purata = $\frac{\text{Jumlah jarak}}{\text{Jumlah masa}}$
Average speed = $\frac{\text{Total distance}}{\text{Total time}}$
- 4 $m = \frac{y_2 - y_1}{x_2 - x_1}$
- 5 $m = -\frac{\text{pintasan-}y}{\text{pintasan-}x}$
 $m = -\frac{y\text{-intercept}}{x\text{-intercept}}$
- 6 $A^{-1} = \frac{1}{ad - bc} \begin{pmatrix} d & -b \\ -c & a \end{pmatrix}$

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 $= \pi d = 2\pi r$
Circumference of circle $= \pi d = 2\pi r$
- 4 Luas bulatan $= \pi r^2$
Area of circle $= \pi r^2$
- 5 $\frac{\text{Panjang lengkok}}{2\pi r} = \frac{\theta}{360^\circ}$
 $\frac{\text{Arc length}}{2\pi r} = \frac{\theta}{360^\circ}$
- 6 $\frac{\text{Luas sektor}}{\pi r^2} = \frac{\theta}{360^\circ}$
 $\frac{\text{Area of sector}}{\pi r^2} = \frac{\theta}{360^\circ}$
- 7 Luas layang-layang $= \frac{1}{2} \times$ hasil darab panjang dua pepenjuru
Area of kite $= \frac{1}{2} \times \text{product of two diagonals}$
- 8 Luas trapezium $= \frac{1}{2} \times$ hasil tambah dua sisi selari $\times$ tinggi
Area of trapezium $= \frac{1}{2} \times \text{sum of two parallel sides} \times \text{height}$
- 9 Luas permukaan silinder $= 2\pi r^2 + 2\pi rh$
Surface area of cylinder $= 2\pi r^2 + 2\pi rh$
- 10 Luas permukaan kon $= \pi r^2 + \pi rs$
Surface area of cone $= \pi r^2 + \pi rs$
- 11 Luas permukaan sfera $= 4\pi r^2$
Surface area of sphere $= 4\pi r^2$
- 12 Isi padu prisma $=$ luas keratan rentas $\times$ tinggi
Volume of prism $= \text{area of cross section} \times \text{height}$

13 Isi padu silinder = $\pi j^2 t$
Volume of cylinder = $\pi r^2 h$

14 Isi padu kon = $\frac{1}{3} \pi j^2 t$
Volume of cone = $\frac{1}{3} \pi r^2 h$

15 Isi padu sfera = $\frac{4}{3} \pi j^3$
Volume of sphere = $\frac{4}{3} \pi r^3$

16 Isi padu piramid = $\frac{1}{3} \times \text{luas tapak} \times \text{tinggi}$
Volume of 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, $\sigma^2 = \frac{\sum (x - \bar{x})^2}{N} = \frac{\sum x^2}{N} - \bar{x}^2$

4 Varians/ Variance, $\sigma^2 = \frac{\sum f(x - \bar{x})^2}{\sum f} = \frac{\sum fx^2}{\sum f} - \bar{x}^2$

5 Sisihan piawai/ Standard deviation, $\sigma = \sqrt{\frac{\sum (x - \bar{x})^2}{N}} = \sqrt{\frac{\sum x^2}{N} - \bar{x}^2}$

6 Sisihan piawai/ Standard deviation, $\sigma = \sqrt{\frac{\sum f(x - \bar{x})^2}{\sum f}} = \sqrt{\frac{\sum fx^2}{\sum f} - \bar{x}^2}$

7 $P(A) = \frac{n(A)}{n(S)}$

8 $P(A') = 1 - P(A)$

Jawab semua soalan.
Answer all questions.

- 1 Faktor sepunya terbesar (FSTB) bagi 27 dan 51 ialah

Highest common factor (HCF) for 27 and 51 is

- A 1
- B 3
- C 9
- D 27

- 2 Semasa aktiviti mendaki bukit, paras kedudukan Aisy berubah mengikut keadaan laluan. Dia mendaki setinggi $\frac{5}{6}$ km, kemudian menuruni $\frac{1}{3}$ km dan seterusnya mendaki lagi $\frac{1}{4}$ km. Apakah jumlah perubahan kedudukan Aisy?

During the hill climbing activity, Aisy's position level changed according to the conditions of the path. He climbed $\frac{5}{6}$ km, then descended $\frac{1}{3}$ km and climbed again for $\frac{1}{4}$ km. What was the total change in Aisy's position?

- A $\frac{1}{2}$
- B $\frac{3}{4}$
- C $\frac{5}{12}$
- D $\frac{9}{12}$

3. Alya menggunakan 20 cawan tepung untuk membuat 920 biji kuih bahulu. Sempena musim perayaan, dia mendapat tempahan untuk menghasilkan 5 428 biji bahulu.

Hitung bilangan cawan tepung yang diperlukan untuk memenuhi permintaan tersebut jika kadar penggunaan tepung tidak berubah.

Alya used 20 cups of flour to make 920 pieces of bahulu cakes. During the festive season, she received an order to produce 5 428 pieces of bahulu cakes.

Calculate the number of cups of flour needed to fulfill the order if the rate of flour used remains the same.

A 318

B 272

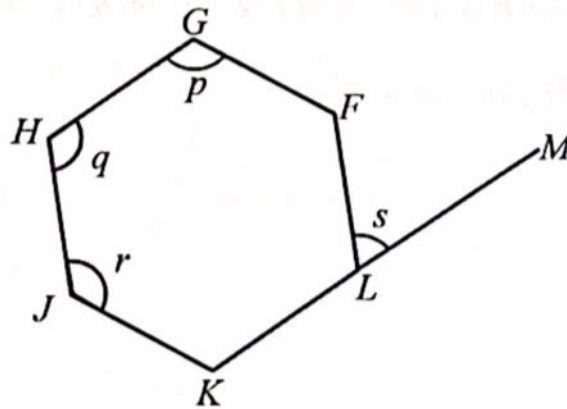
C 225

D 118



SERTAI TELEGRAM @exercise_students

- 4 Rajah 1 menunjukkan sebuah poligon sekata, $FGHJKL$. KLM ialah garis lurus.
Diagram 1 shows a regular polygon, $FGHJKL$. KLM is a straight line.



Rajah 1
 Diagram 1

Hitung nilai $p + q + r + s$.

Calculate the value of $p + q + r + s$.

- A 360
- B 390
- C 420
- D 720

- 5 Satu lantai dewan yang berbentuk segi empat tepat mempunyai ukuran lebar $(2x - 3)$ meter dan panjang $(5x + 2)$ meter. Ungkapkan luas lantai dalam sebutan x .

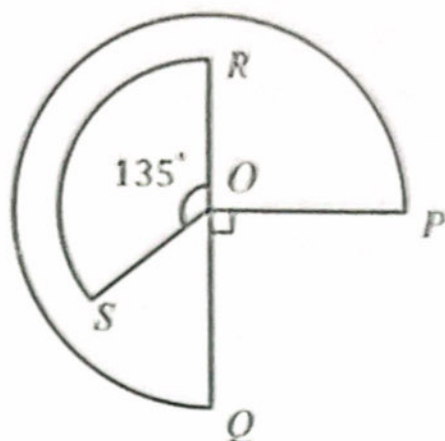
A rectangular hall floor has a width of $(2x - 3)$ meters and a length of $(5x + 2)$ meters.

Express the area of the floor in term of x .

- A $10x^2 - 11x - 6$
- B $10x^2 + 11x - 6$
- C $10x^2 - 19x - 6$
- D $10x^2 + 19x - 6$

- 6 Rajah 2 menunjukkan sektor ORS dan OPQ , berpusat di O .

Diagram 2 shows a sector of ORS and OPQ , centred at O .



Rajah 2
Diagram 2

Diberi panjang OP dan OR masing-masing ialah 20 cm dan 15 cm. Hitung jumlah panjang, dalam cm, lengkok RS dan PQ .

Given the length of OP and OR are 20 cm and 15 cm respectively. Calculate the total lengths, in cm, of arcs RS and PQ .

[Guna /Use, $\pi = \frac{22}{7}$]

- A 104.82
- B 109.29
- C 129.64
- D 169.64

- 7 Jadual 1 menunjukkan plot batang-dan-daun mewakili jisim, dalam kg, bagi 10 orang murid.

Table 1 shows a stem-and-leaf plot for the body mass, in kg, of 10 pupils.

Jisim murid <i>Pupils body mass</i>			
Batang <i>Stem</i>	Daun <i>Leaf</i>		
4	2	6	8
5	1	2	4
6	2	6	9

Kekunci: 4 | 2 bermaksud 42 kg

Key: 4 | 2 refer to 42 kg

Jadual 1

Table 1

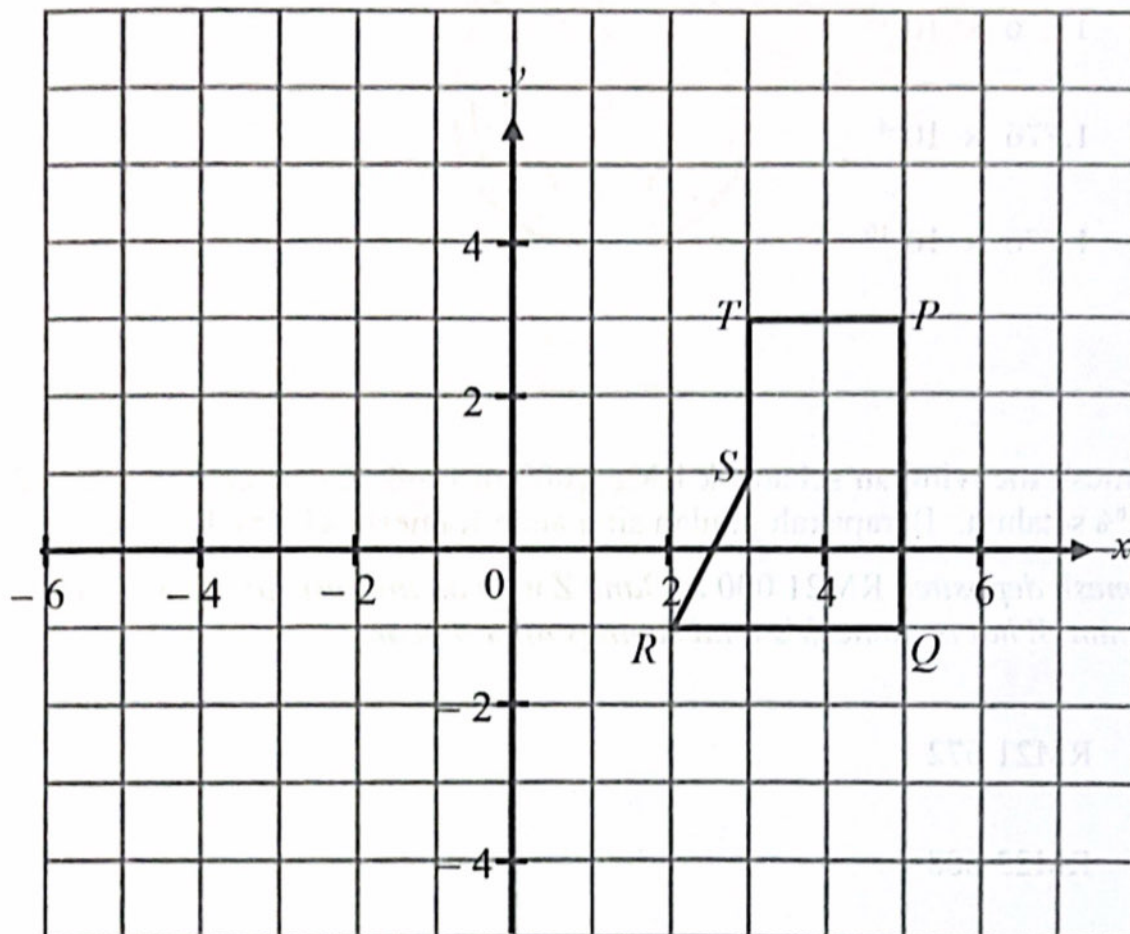
Tentukan jenis sukatan kecenderungan memusat yang sesuai.

Determine the suitable type of measure of central tendencies.

- A Min kerana terdapat nilai ekstrem dalam set data.
Mean because there is an extreme value in the set of data.
- B Min kerana tiada nilai ekstrem dalam set data.
Mean because there is no extreme value in the set of data.
- C Median kerana tiada nilai ekstrem dalam set data.
Median because there is no extreme value in the set data.
- D Median kerana terdapat nilai ekstrem dalam set data.
Median because there is an extreme value in the set data.

- 8 Rajah 3 menunjukkan sebuah pentagon, $PQRST$ yang dilukis pada satu satah Cartes.

Diagram 3 shows a pentagon, $PQRST$ drawn on a Cartesian plane.



Rajah 3
Diagram 3

Nyatakan koordinat imej bagi titik S di bawah pantulan pada garis $x = -1$.

State the coordinates of the image of point S under a reflection in the line $x = -1$.

- A $(-5, 1)$
- B $(1, -5)$
- C $(3, -3)$
- D $(-3, 3)$

9 $3.7 \times 10^{-8} \times 4.8 \times 10^3 =$

A 17.76×10^{-5}

B 17.76×10^{-11}

C 1.776×10^{-4}

D 1.776×10^{-10}

- 10 Ramesh menyimpan sebanyak RM21 000 di Bank Z dengan kadar faedah 3.2% setahun. Berapakah jumlah simpanan Ramesh selepas 4 tahun.

Ramesh deposited RM21 000 in Bank Z with an interest rate of 3.2% per annum. What is Ramesh's total savings after 4 years?

A RM21 672

B RM23 688

C RM26 880

D RM27 720

11 Rajah 4 menunjukkan sebuah jam. Locus Q ialah pergerakan jarum jam.

Diagram 4 shows a clock. Locus Q is the movement of the clock hand.



Rajah 4
Diagram 4

Antara berikut, yang manakah locus Q ?

Which of the following is the locus of Q ?

- A Bujur
Oval
- B Lengkung
Curve
- C Bulatan
Circle
- D Garis Lurus
Straight line

- 12 Nyatakan pintasan- y bagi garis lurus $5y - 7x = 10$.

State the y -intercept of the straight line $5y - 7x = 10$.

- A 2
B 5
C 7
D 10



- 13 Antara berikut yang manakah satu pernyataan?

Which of the following is a statement?

- A Tolong diam!
Keep quiet!
B 3 ialah faktor bagi 12.
3 is a factor of 12.
C $x > 6$
D $2 + 7w = 8$

- 14 Rajah 5 menunjukkan satu implikasi.

Diagram 5 shows an implication.

Jika $12 - 3 = 9$, maka $12 - 3 \times 5 = 45$.
 If $12 - 3 = 9$, then $12 - 3 \times 5 = 45$.

Rajah 5
Diagram 5

Antara berikut, pasangan manakah yang betul?

Which of the following pairs is correct?

	Kontrapositif <i>Contrapositive</i>	Nilai Kebenaran <i>Truth value</i>
A	Jika $12 - 3 \neq 9$, maka $12 - 3 \times 5 \neq 45$. If $12 - 3 \neq 9$, then $12 - 3 \times 5 \neq 45$.	Benar <i>True</i>
B	Jika $12 - 3 \neq 9$, maka $12 - 3 \times 5 \neq 45$. If $12 - 3 \neq 9$, then $12 - 3 \times 5 \neq 45$.	Palsu <i>False</i>
C	Jika $12 - 3 \times 5 \neq 45$, maka $12 - 3 \neq 9$. If $12 - 3 \times 5 \neq 45$, then $12 - 3 \neq 9$.	Benar <i>True</i>
D	Jika $12 - 3 \times 5 \neq 45$, maka $12 - 3 \neq 9$. If $12 - 3 \times 5 \neq 45$, then $12 - 3 \neq 9$.	Palsu <i>False</i>

- 15 Antara berikut, yang manakah kesimpulan umum secara induktif bagi urutan nombor 8, 29, 86, 197, ... yang mengikut pola berikut.

Which of the following is a general conclusion by inductive for the sequence of numbers 8, 29, 86, 197, ... which follows the following pattern.

$$\begin{aligned} 8 &= 3(1) + 5 \\ 29 &= 3(8) + 5 \\ 86 &= 3(27) + 5 \\ 197 &= 3(64) + 5 \\ &\vdots \end{aligned}$$

A $3n + 5, n = 1, 8, 27, 64, \dots$

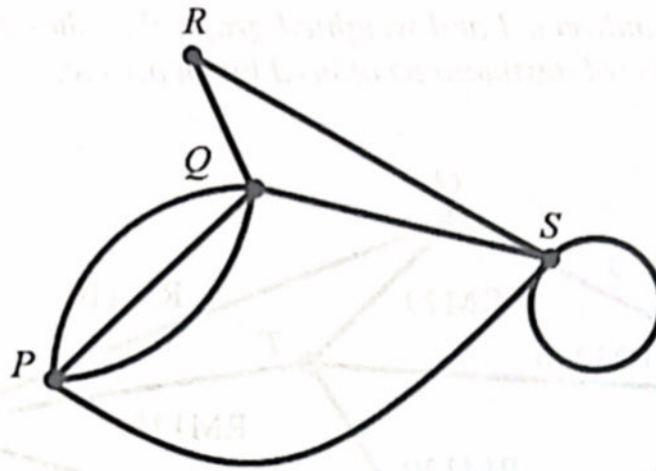
B $3n^2 + 5, n = 1, 2, 3, 4, \dots$

C $3n^3 + 5, n = 1, 2, 3, 4, \dots$

D $3n^3 + 5, n = 1, 8, 27, 64, \dots$

- 16 Rajah 6 menunjukkan sebuah graf.

Diagram 6 shows a graph.



Rajah 6
Diagram 6

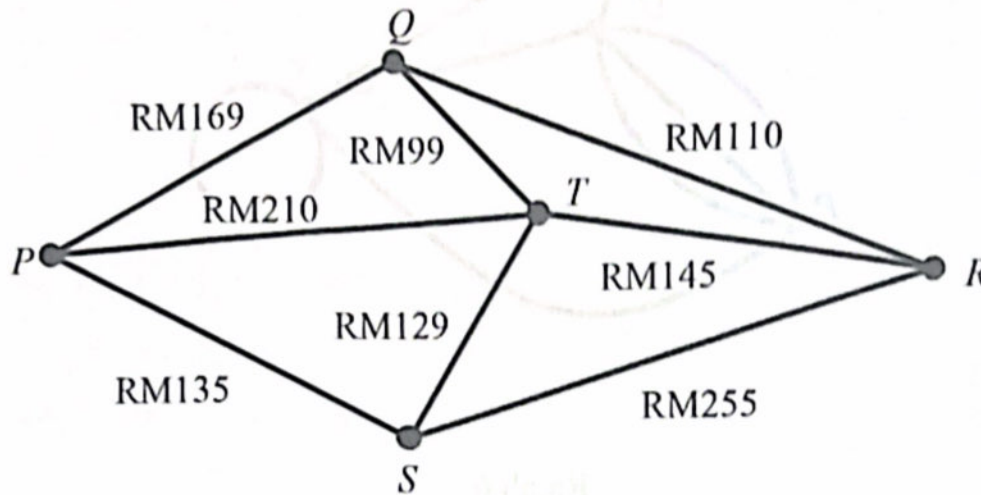
Tentukan nilai $d(S)$.

Determine the value of $d(S)$.

- A 4
- B 5
- C 8
- D 10

- 17 Rajah 7 ialah graf tak terarah dan berpemberat yang menunjukkan harga tiket penerbangan ke beberapa destinasi yang ditawarkan oleh sebuah syarikat penerbangan.

Diagram 7 is an undirected and weighted graph that shows the price of flight tickets to several destinations offered by an airline.



Rajah 7
Diagram 7

Zafran menaiki penerbangan dari P ke R dengan melalui semua destinasi. Hitung kos, dalam RM, yang paling murah boleh dipilih olehnya.

Zafran takes a flight from P to R via all destinations. Calculate the cheapest cost, in RM, that he could choose.

- A 355
- B 390
- C 473
- D 652

18 $2\,545_6 + 501_9 = X_{10}$

Tentukan nilai X .

Determine the value of X .

A 4503

B 3046

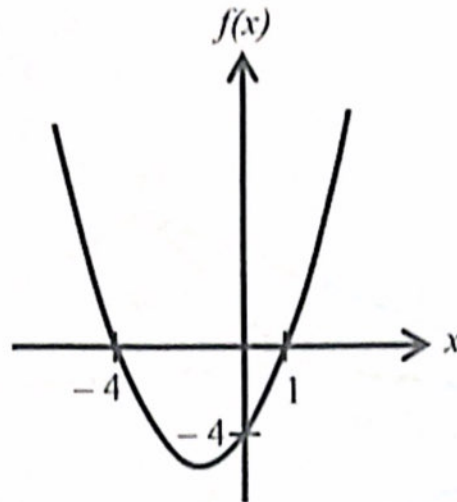
C 1383

D 1047



19 Rajah 8 menunjukkan graf fungsi kuadratik $f(x) = x^2 + 3x - 4$.

Diagram 8 shows the graph of the quadratic function $f(x) = x^2 + 3x - 4$.

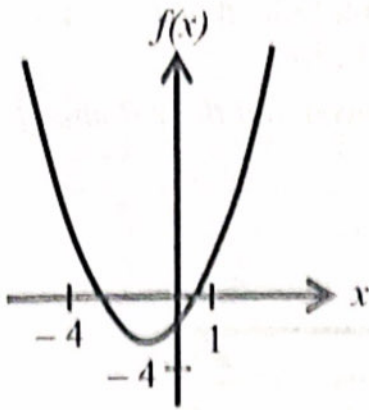


Rajah 8
Diagram 8

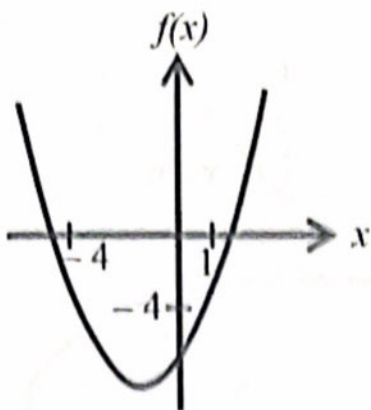
Antara graf berikut, yang manakah menunjukkan perubahan apabila nilai c ditambah?

Which of the following graphs shows change when the value of c is added?

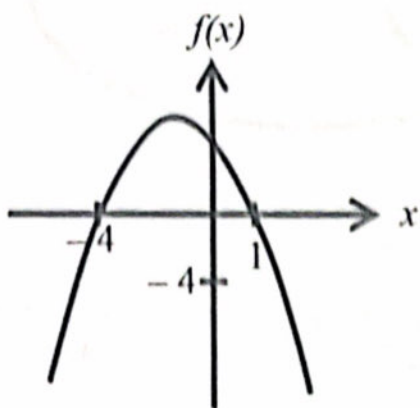
A



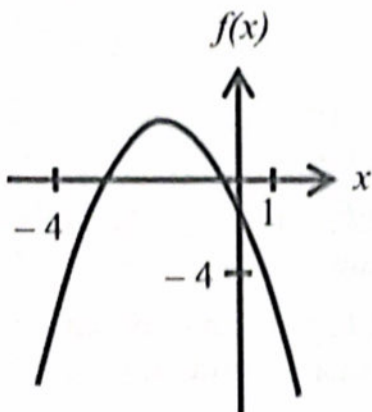
B



C

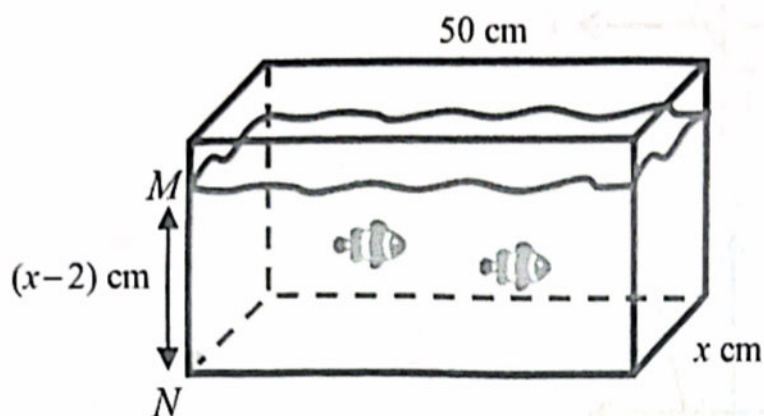


D



- 20 Rajah 9 menunjukkan sebuah akuarium berbentuk kuboid. Diberi isipadu air ialah $18\,000\text{ cm}^3$.

Diagram 9 shows a cuboid shaped aquarium. Given that the volume of water is $18\,000\text{ cm}^3$.



Rajah 9
Diagram 9

Hitung tinggi, dalam cm, MN .

Calculate the height, in cm, of MN .

- A 18
- B 19
- C 20
- D 21

- 21 Rajah 10 ialah gambar rajah Venn yang menunjukkan makanan kegemaran tiga orang murid.

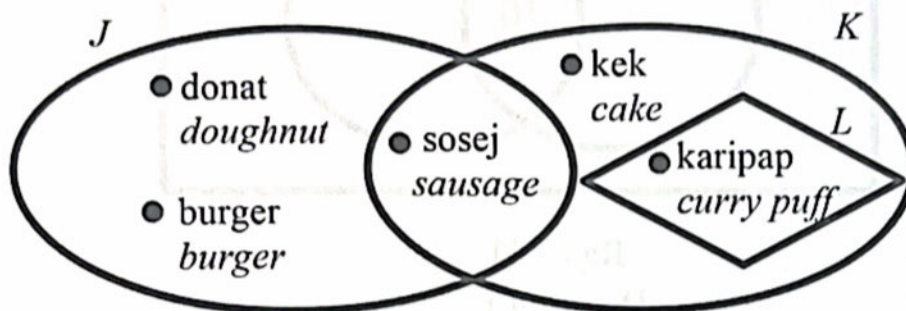
Diberi

set semesta, $\xi = J \cup K \cup L$,
 set $J = \{\text{makanan kegemaran Jenny}\}$,
 set $K = \{\text{makanan kegemaran Kiran}\}$,
 set $L = \{\text{makanan kegemaran Lina}\}$.

Diagram 10 is a Venn diagram that shows the favourite food of three pupils.

Given

universal set, $\xi = J \cup K \cup L$,
 set $J = \{\text{Jenny's favourite food}\}$,
 set $K = \{\text{Kiran's favourite food}\}$,
 set $L = \{\text{Lina's favourite food}\}$.



Rajah 10

Diagram 10

Senaraikan semua unsur bagi set $(J \cup L) \cap K'$.

List all the elements of set $(J \cup L) \cap K'$.

- A {donat, burger}
 {doughnut, burger}
- B {donat, burger, sosej}
 {doughnut, burger, sausage}
- C {donat, burger, sosej, karipap}
 {doughnut, burger, sausage, curry puff}
- D {donat, burger, sosej, karipap, kek}
 {doughnut, burger, sausage, curry puff, cake}

- 22 Rajah 11 ialah gambar rajah Venn yang menunjukkan bilangan murid mengikut sukan kegemaran mereka.

Diberi

set $P = \{\text{murid yang gemar bermain ping pong}\},$

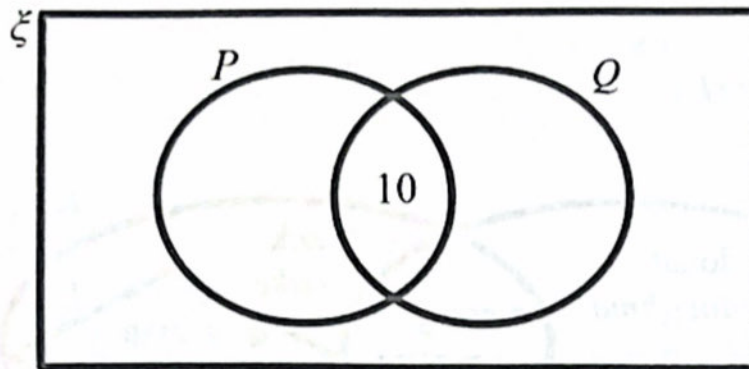
set $Q = \{\text{murid yang gemar bermain skuasy}\}.$

Diagram 11 is a Venn diagram showing the number of students according to their favourite sports.

Given

set $P = \{\text{pupils who like to play ping pong}\},$

set $Q = \{\text{pupils who like to play squasy}\}.$



Rajah 11
Diagram 11

Diberi $n(\xi) = 50$, $n(P) = 35$ dan $n(Q) = 18$, hitung bilangan murid yang tidak menggemari kedua-dua sukan itu.

Given $n(\xi) = 50$, $n(P) = 35$ and $n(Q) = 18$, calculate the numbers of pupils who do not like the both sports.

- A 5
- B 7
- C 9
- D 11

- 23 Antara ketaksamaan linear berikut, yang manakah memuaskan titik (3, 18)?
Which of the following linear inequalities satisfies point (3, 18)?

A $y > 4x + 3$

B $y > 4x + 8$

C $2y < 3x - 12$

D $3y < 5x + 36$



A 4 m

B 11 m

C 15 m

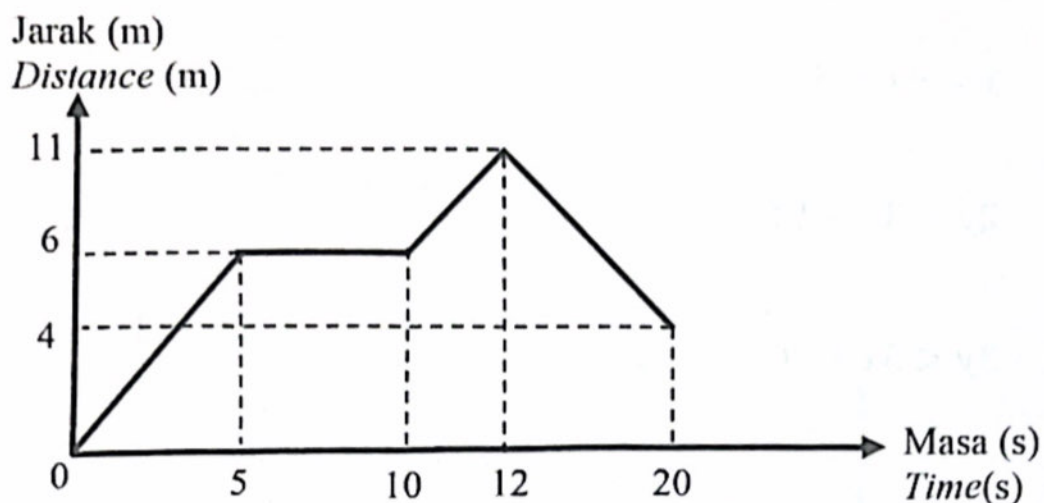
D 16 m



SERTAI TELEGRAM @exercise_students

- 24 Rajah 12 menunjukkan graf jarak-masa bagi pergerakan satu zarah dalam tempoh 20 saat.

Diagram 12 shows the distance-time graph for the movement of a particle in a period of 20 seconds.



Rajah 12
Diagram 12

Tentukan jumlah jarak keseluruhan yang dilalui oleh zarah itu.

Determine the total distance travelled by the particle.

- A 4 m
- B 11 m
- C 15 m
- D 18 m

- 25 Diberi min dan varians bagi satu set data masing-masing ialah 25 dan 3.5. Jika setiap cerapan data didarab 2 dan kemudian ditambah 4, hitung min dan varians baharunya.

Given mean and variance of a set of data are 25 and 3.5 respectively. If each observation of the data is multiplied by 2 and then 4 is added by 4, calculate the new mean and variance.

	Min Baharu <i>New Mean</i>	Varians Baharu <i>New Variance</i>
A	50	7
B	50	14
C	54	7
D	54	14

- 26 Antara berikut, yang manakah bukan langkah yang perlu diambil kira sebelum mewujudkan pelan kewangan.

Which of the following is not the step to consider before creating a financial plan.

- A Menetapkan matlamat kewangan.
Setting financial goals.
- B Menentukan strategi pendapatan yang akan membantu pelan kewangan.
Determine the income strategies that will help to achieve the financial goals.
- C Menganalisis tabiat perbelanjaan.
Analyse spending behaviour.
- D Membuat anggaran awal untuk mencapai matlamat.
Make an initial budget to achieve each goal.

- 27 Jadual 3 menunjukkan beberapa nilai pemboleh ubah P , Q dan R . Diberi P berubah secara langsung dengan kuasa dua Q dan secara songsang dengan R .

Table 3 shows the values of variables P , Q dan R . Given P varies directly as Q and inversely as R .

P	18	m
Q	9	6
R	4	2

Jadual 3
Table 3

Hitungkan nilai m .

Calculate the value of m .

- A $\frac{8}{3}$
B $\frac{16}{3}$
C 16
D 24

- 28 Peratus murid 5 Harmoni gagal dalam ujian Matematik, G , berubah secara songsang dengan peratus kehadiran murid ke sekolah, H . Dalam ujian bulan Mei, bilangan murid yang gagal ialah 12% apabila peratus kehadiran ialah 88%.

Hitung peratus murid yang gagal pada ujian bulan Jun jika peratus kehadiran meningkat kepada 91%.

The percentage of 5 Harmoni's students who fail in Mathematics test, G , varies inversely as the percentage of students' attendance to school, H . In May monthly test, the number of students who have failed were 12% when the percentage of attendance was 88%.

Calculate the percentage of students who fail the June monthly test if the percentage of attendance increase to 91%.

- A 12.41
- B 12.40
- C 11.61
- D 11.60

- 29 Suresh menyewa dua bilik di sebuah hotel dengan harga RM220 setiap bilik semalaman. Keluarga Suresh menginap di hotel itu selama tiga malam. Hitung cukai perkhidmatan yang perlu dibayar oleh Suresh jika hotel itu mengenakan cukai perkhidmatan sebanyak 6%.

Suresh rented two rooms at a hotel for RM220 each room per night. Suresh's family stayed at the hotel for three nights. Calculate the service tax payable by Suresh if the hotel charges 6% for the service tax.

- A RM26.40
- B RM39.60
- C RM52.80
- D RM79.20

- 30 Jadual 4 menunjukkan maklumat polisi insurans perubatan yang dibeli oleh Asma. Diberi kos perubatan yang dilindungi oleh polisi itu ialah RM25 400.

Table 4 shows the information of the medical insurance policy purchased by Asma. Given the medical cost covered by the policy is RM25 400.

Peruntukan deduktibel <i>Deductible provision</i>	RM800
Peratusan Ko-insurans <i>Co-insurance percentage</i>	80/20

Jadual 4
Table 4

Hitung kos yang ditanggung oleh syarikat insurans.

Calculate the cost borne by the insurance company.

- A RM19 240
- B RM19 680
- C RM20 320
- D RM20 960

- 31 Diberi bahawa dua segi tiga LMN dan PQR adalah kongruen dengan keadaan $\angle MLN = \angle QPR$, $\angle LMN = \angle PQR$ dan $MN = QR$.
Sifat kekongruenan segi tiga yang manakah digunakan untuk menyokong pernyataan di atas?

Given that two triangles LMN and PQR are congruent where

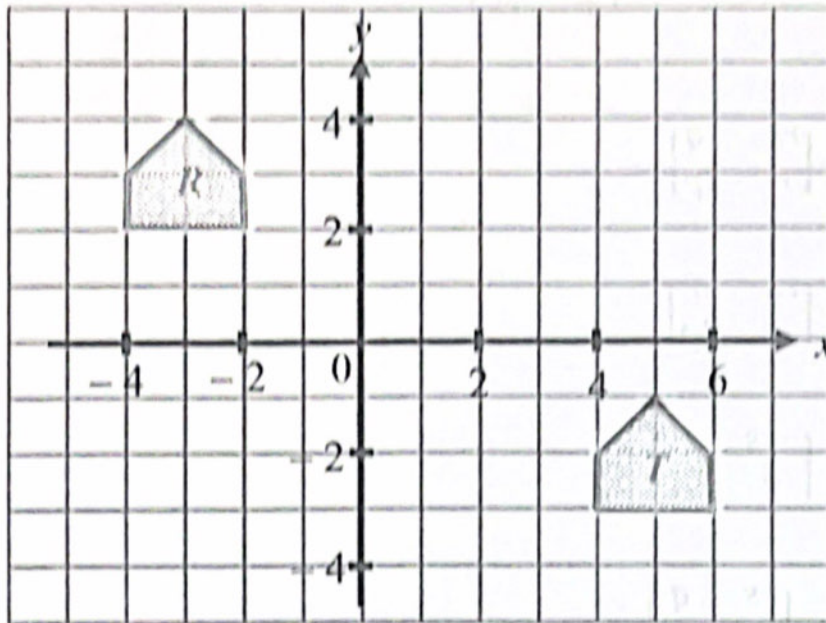
$\angle MLN = \angle QPR$, $\angle LMN = \angle PQR$ dan $MN = QR$.

Which properties of triangle congruency used to support the above statement?

- A Sudut – Sisi – Sudut (ASA)
Angle – Side – Angle (ASA)
- B Sisi – Sisi – Sisi (SSS)
Side – Side – Side (SSS)
- C Sisi – Sudut – Sisi (SAS)
Side – Angle – Side (SAS)
- D Sudut – Sudut – Sisi (AAS)
Angle – Angle – Side (AAS)

- 32 Rajah 13 menunjukkan T ialah imej bagi R di bawah satu gabungan transformasi PQ.

Diagram 13 shows T is the image of R under a combined transformation PQ.



Rajah 13
Diagram 13

Diberi bahawa transformasi Q ialah pantulan pada paksi-y.
Perihalkan transformasi P.

Given that transformation Q is a reflection in the y-axis.

Describe transformation P

- A Translasi $\begin{pmatrix} 2 \\ -5 \end{pmatrix}$

Translation $\begin{pmatrix} 2 \\ -5 \end{pmatrix}$

- B Translasi $\begin{pmatrix} 0 \\ 5 \end{pmatrix}$

Translation $\begin{pmatrix} 0 \\ 5 \end{pmatrix}$

- C Pantulan pada garis $y = x$

Reflection in the line $y = x$

- D Putaran 180° pada pusat $(1, 0)$

Rotation at centre $(1, 0)$

- 33 Cari matriks songsang bagi $\begin{bmatrix} 2p & -q \\ r & rs \end{bmatrix}$.

Find the inverse matrix for $\begin{bmatrix} 2p & -q \\ r & rs \end{bmatrix}$.

A $\frac{1}{2prs - qr} \begin{bmatrix} rs & -q \\ r & 2p \end{bmatrix}$

B $\frac{1}{2prs + qr} \begin{bmatrix} rs & q \\ -r & 2p \end{bmatrix}$

C $\frac{1}{2prs + qr} \begin{bmatrix} -rs & -q \\ r & -2p \end{bmatrix}$

D $\frac{1}{-2prs - qr} \begin{bmatrix} rs & q \\ -r & 2p \end{bmatrix}$

- 34 Diberi

Given

$$\begin{bmatrix} 6 & x+y \\ 5-x & -3 \end{bmatrix} = \begin{bmatrix} 6 & 10 \\ -2 & -3 \end{bmatrix}$$

Hitung nilai x dan y .

Calculate the value of x and y .

A $x = -7, y = 17$

B $x = -3, y = 13$

C $x = 3, y = 7$

D $x = 7, y = 3$



SERTAI TELEGRAM @exercise_students

35 Tentukan peringkat matriks berikut.

Determine the order of the following matrix.

$$\begin{bmatrix} 4 & 2 & 1 \\ 5 & -8 & 4 \end{bmatrix}$$

A 2×2

B 2×3

C 3×2

D 3×3

36 $\begin{bmatrix} 2 & 6 & 8 \\ 1 & -4 & 5 \end{bmatrix} \begin{bmatrix} -3 \\ -8 \\ -2 \end{bmatrix} =$

A $\begin{bmatrix} -70 \\ 39 \end{bmatrix}$

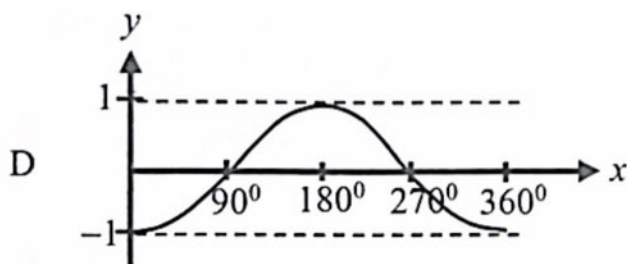
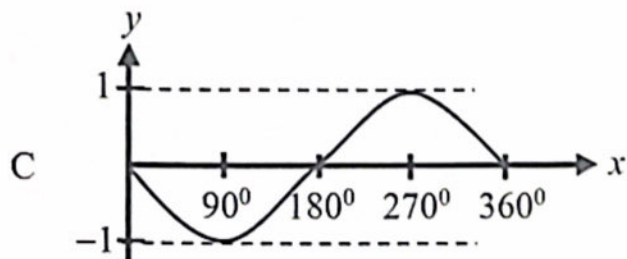
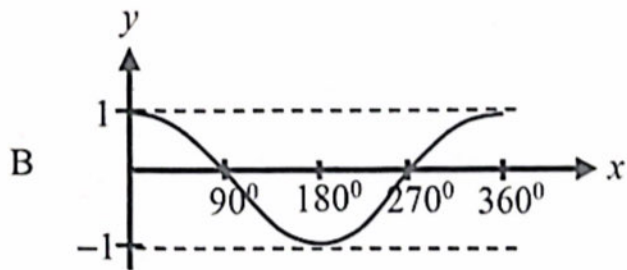
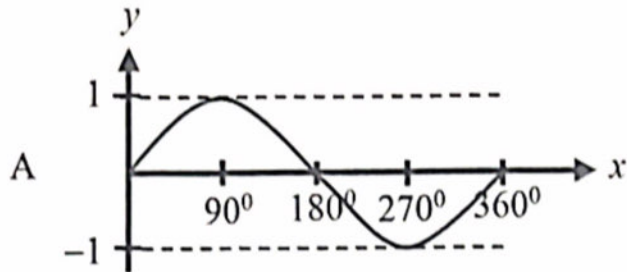
B $\begin{bmatrix} -70 \\ 19 \end{bmatrix}$

C $\begin{bmatrix} -26 \\ -13 \end{bmatrix}$

D $\begin{bmatrix} -26 \\ -45 \end{bmatrix}$

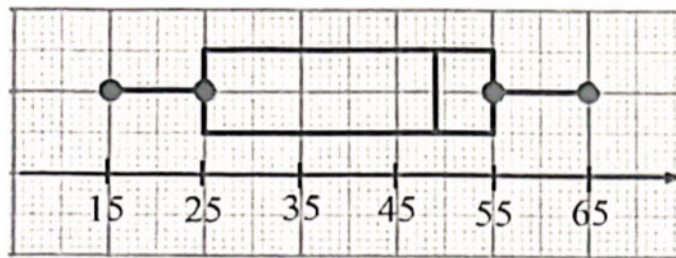
- 37 Antara graf berikut, yang manakah mewakili fungsi $y = \sin x$ dengan keadaan $0^\circ \leq \theta \leq 360^\circ$?

Which of the following graphs represent the function of $y = \sin x$ where $0^\circ \leq \theta \leq 360^\circ$?



- 38 Rajah 14 menunjukkan sebuah plot kotak.

Diagram 14 shows a box plot.



Rajah 14
Diagram 14

Nyatakan julat antara kuartil berdasarkan plot kotak di atas.

State the interquartile range based on the box plot above.

- A 15
- B 25
- C 30
- D 49

- 39 Cari varians bagi set data berikut.

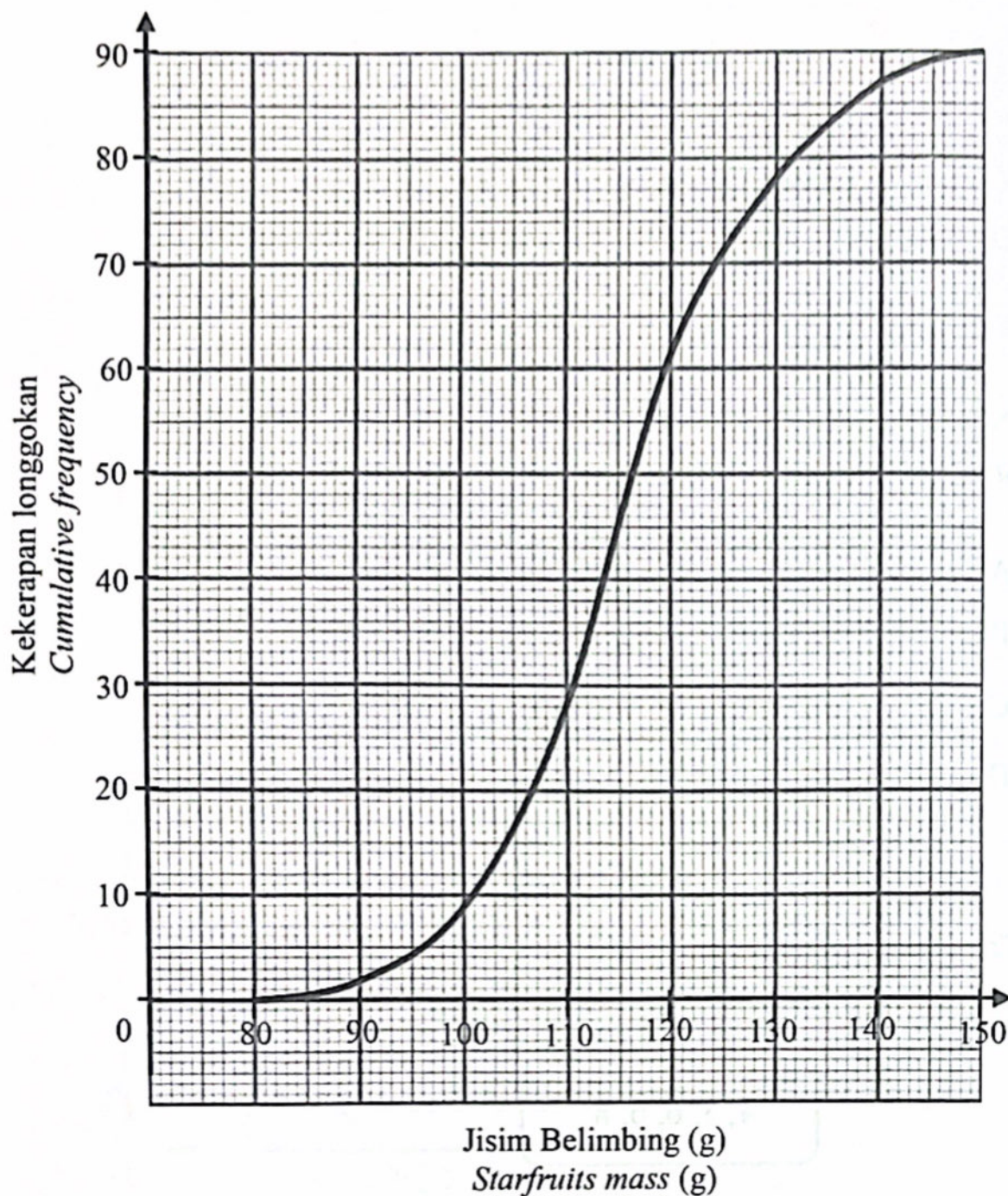
Find the variance of the following set of data.

4, 5, 6, 6, 8

- A 1.06
- B 1.42
- C 1.63
- D 1.76

- 40 Rajah 15 menunjukkan suatu ogif bagi jisim, dalam g, bagi 90 biji belimbing yang dicatatkan.

Rajah 15 shows an ogive of the masses, in g, of 90 starfruits recorded.

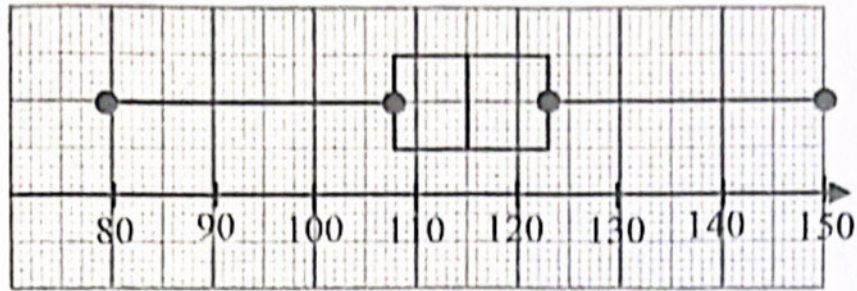


Rajah 15
Diagram 15

Antara plot kotak berikut, yang manakah mewakili ogif di atas.

Which of the following box plots represents the ogive above.

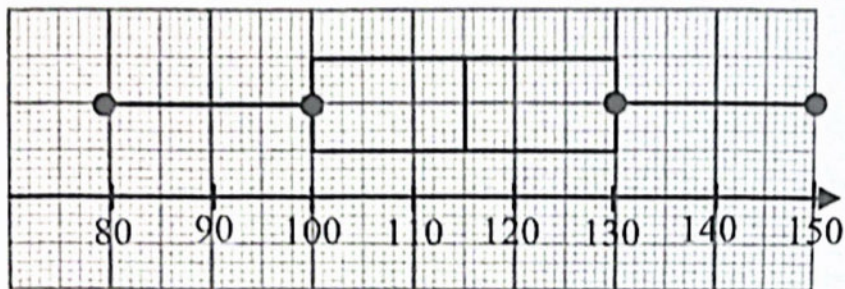
A



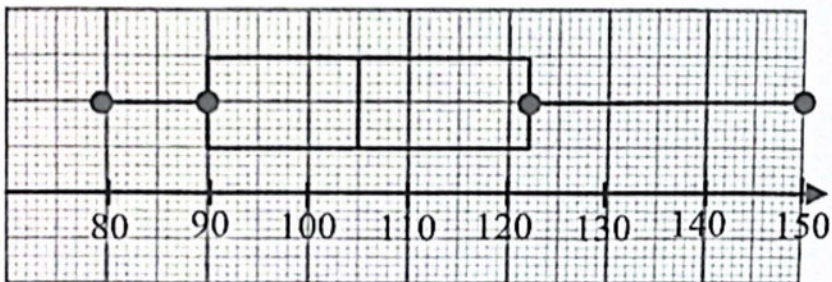
B



C



D



KERTAS SOALAN TAMAT
END OF QUESTION PAPER

