

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 $\frac{9}{12}$

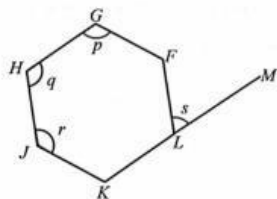
3. Alya menggunakan 20 cawan tepung untuk membuat 920 biji kuih bahulu. Sempena musim perayaan, dia mendapat tempahan untuk menghasilkan 5 428 biji bahulu. Hitung bilangan cawan tepung yang diperlukan untuk memenuhi permintaan tersebut jika kadar penggunaan tepung tidak berubah.

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

- 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 $p + q + r + s$.

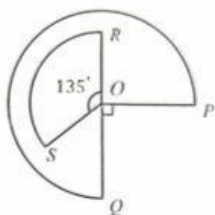
Calculate the value of $p + q + r + s$.

- 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 Pupils body mass				
Batang Stem	Daun Leaf			
4	2	6	8	
5	1	2	4	7
6	2	6	9	

Kekunci: 4 | 2 bermaksud 42 kg

Key: 4 | 2 refer to 42 kg

Jadual 1
Table 1

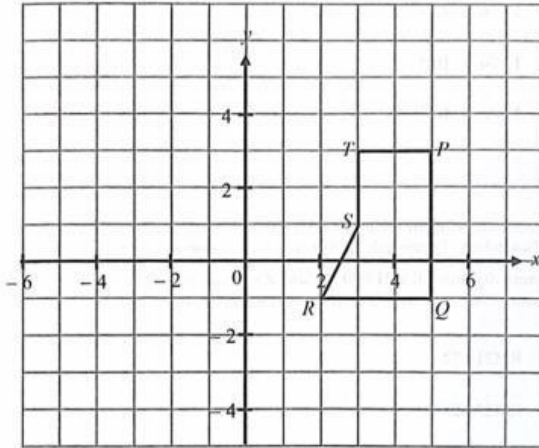
Tentukan jenis sukatan kecenderungan memusat yang sesuai.

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?

	Kontraposisif Contrapositive	Nilai Kebenaran Truth value
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 True
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 False
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 True
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 False

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

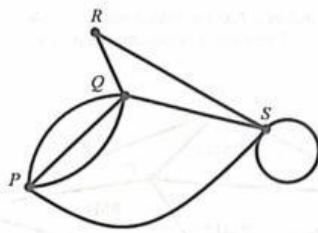
B $3n^2 + 5, n = 1, 2, 3, 4, \dots$

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

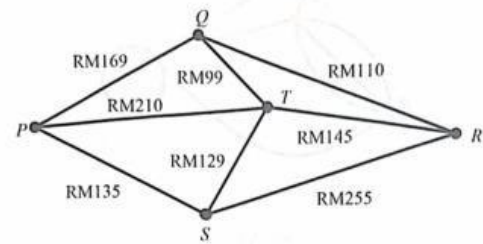
Tentukan nilai $d(S)$.

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 .

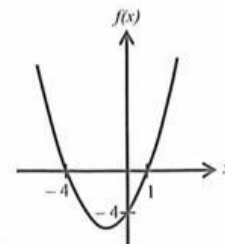
Determine the value of X .

- A 4503
- B 3046
- C 1383
- D 1047



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

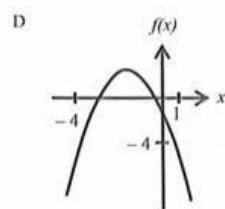
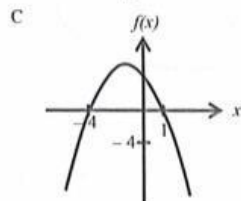
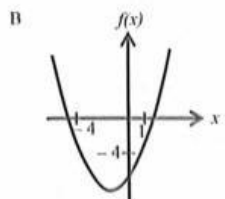
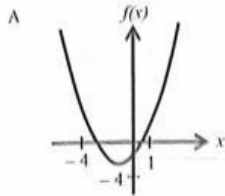
Diagram 8 shows the graph of the quadratic function $f(x) = x^2 + 3x - 4$.



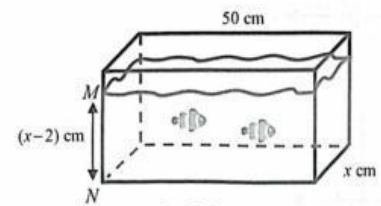
Rajah 8
Diagram 8

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?



- 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