

Jawab semua soalan.

1. Nombor yang manakah betul dibundarkan kepada tiga angka bererti ?

*Which number is round off correctly to three significant figures?*

- A  $6\,732 = 670$
- B  $0.01532 = 0.0153$
- C  $43.751 = 43.7$
- D  $87\,652 = 87\,600$

2. Garis lurus yang manakah antara berikut adalah selari dengan paksi-x?

*Which of the following straight lines is parallel to the x-axis?*

- A  $x = 5$
- B  $y - 3 = 0$
- C  $2x + y = 7$
- D  $x - y = 4$

3. Jika  $y = x^2 - 6x + 9$ , apakah koordinat titik minimum bagi graf fungsi ini?

*If  $y = x^2 - 6x + 9$ , what are the coordinates of the minimum point for the graph of this function?*

- A (3, 0)
- B (3, -9)
- C (6, 9)
- D (0, 9)

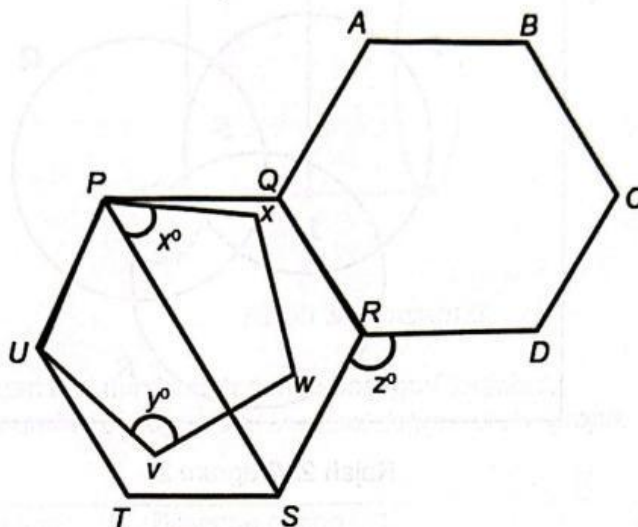
4. Ungkapkan nombor  $27_9$  dalam asas tiga.

*Express the number  $27_9$  in base three.*

- A  $9_3$
- B  $221_3$
- C  $1000_3$
- D  $10011_3$

5. Dalam Rajah 1,  $PQRSTU$  dan  $ABCD RQ$  ialah dua heksagon sekata.  $PUVWX$  ialah sebuah pentagon sekata. Cari nilai bagi  $x^\circ + y^\circ + z^\circ$ .

*In Diagram 1,  $PQRSTU$  and  $ABCD RQ$  are two regular hexagons.  $PUVWX$  is a regular pentagon. Find the value of  $x^\circ + y^\circ + z^\circ$ .*



Rajah 1 / Diagram 1

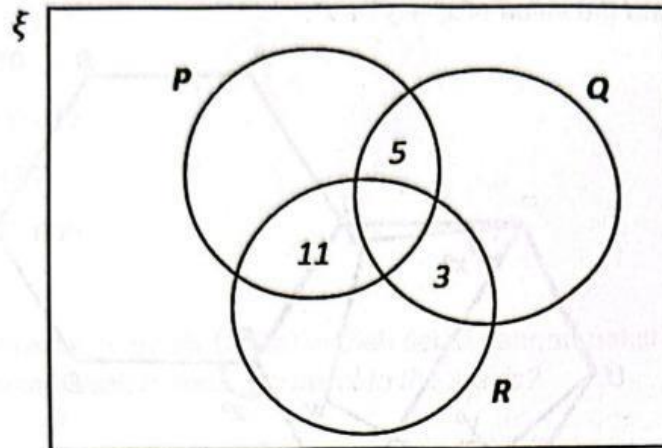
6. Diberi bahawa  $\frac{p}{6} = \frac{7p-1}{\sqrt{q}}$ , ungkapkan  $q$  dalam sebutan  $p$

*Given that  $\frac{p}{6} = \frac{7p-1}{\sqrt{q}}$ , express  $q$  in term of  $p$ .*

- A  $\frac{36(7p-1)^2}{p}$   
 B  $36\left(\frac{7p-1}{p}\right)$   
 C  $\frac{6(7-1)^2}{p^2}$   
 D  $36\left(\frac{7p-1}{p}\right)^2$

7. Rajah 2 ialah gambar rajah Venn yang menunjukkan bilangan unsur dalam set P, set Q, dan set R.

Diagram 2 is a Venn diagram showing the number of elements in set P, set Q, and set R.



Rajah 2/ Diagram 2

Jika  $n(\xi) = 80$ ,  $n(P) = 40$ ,  $n(Q) = 35$ ,  $n(R) = 30$ , dan  $n(P \cap Q \cap R) = 10$ , hitungkan  $n(P \cap Q)$ .

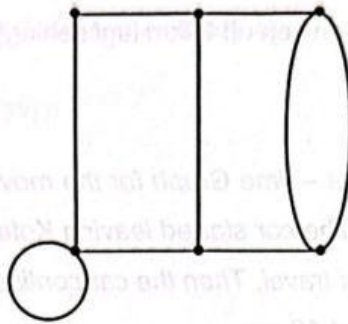
If  $n(\xi) = 80$ ,  $n(P) = 40$ ,  $n(Q) = 35$ ,  $n(R) = 30$ , dan  $n(P \cap Q \cap R) = 10$ , calculate  $n(P \cap Q)$ .

- A 55
- B 65
- C 68
- D 70



8. Rajah 3 menunjukkan satu graf yang mempunyai gelung dan berbilang tepi.

Diagram 3 shows a graph that has loops and multiple edges.



Rajah 3/ Diagram 3

Tentukan bilangan tepi dan jumlah darjah bagi graf tersebut.

Determine the number of edges and the total degree of the graph.

|   | Bilangan tepi<br>Number of edges | Bilangan darjah<br>Sum of degree |
|---|----------------------------------|----------------------------------|
| A | 6                                | 12                               |
| B | 8                                | 16                               |
| C | 9                                | 18                               |
| D | 10                               | 20                               |

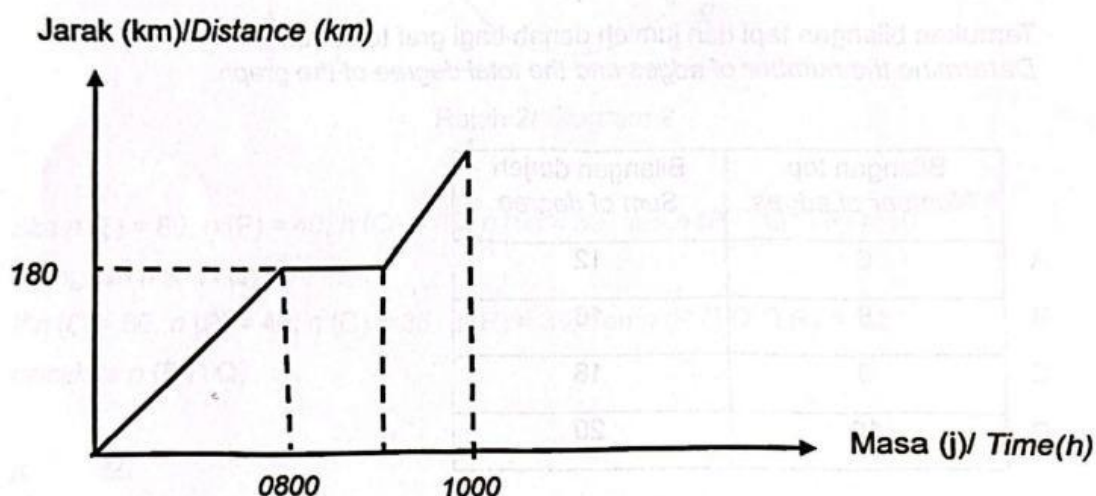
9. Diberi data tak terkumpul: 5, 7, 9, 12, 15, 7, 10. Apakah julat bagi data tersebut?

Given ungrouped data: 5, 7, 9, 12, 15, 7, 10. What is the range of the data?

- A 7  
B 10  
C 12  
D 15

10. Rajah 4 menunjukkan Graf Jarak–Masa bagi pergerakan sebuah kereta yang bertolak dari Kota Bharu ke Gua Musang. Kereta tersebut mula bertolak dari Kota Bharu pada jam 6.00 pagi dan berhenti selama satu jam selepas dua jam perjalanan. Kemudian kereta tersebut meneruskan perjalanan sejauh 25km lagi sehingga tiba di Gua Musang pada jam 10 pagi.

Diagram 4 shows the Distance –Time Graph for the movement of a car that leaves from Kota Bharu to Gua Musang. The car started leaving Kota Bharu at 6.00 am and stopped for one hour after two hours of travel. Then the car continued its journey for another 25km until arriving in Gua Musang at 10 am.



Rajah 4/ Diagram 4

Hitung laju purata bagi keseluruhan perjalanan kereta tersebut.

Calculate the average speed for the entire journey of the car.

- A 15.72 km/j
- B 20.50 km/j
- C 51.25 km/j
- D 68.33 km/j

11. Diberi peristiwa A dan B ialah dua peristiwa yang saling eksklusif dan  $P(A) = \frac{1}{3}$ .

Jika  $P(A \cup B) = \frac{7}{9}$ , kenalpasti  $P(B)$ .

*Given that events A and B are two mutually exclusive events and  $P(A) = \frac{1}{3}$ ,*

*If  $P(A \cup B) = \frac{7}{9}$ , identify  $P(B)$ .*

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

12. Dalam satu acara larian 100 meter semasa Sukan Tahunan Sekolah, Azmi telah mendapat tempat pertama, Shahrul mendapat tempat kedua dan Gopal mendapat tempat ketiga dengan tempoh masa yang diambil masing-masing ialah 12.5 saat, 14.2 saat dan 15.5 saat. Apakah nisbah masa terpanjang kepada masa paling perlahan?

*In the 100-meter race during the school's Annual Sports, Azmi came in first place, Shahrul came in second place and Gopal came in third place with times of 12.5 seconds, 14.2 seconds and 15.5 seconds respectively. What is the ratio of the fastest time to the slowest time?*

- A 7:5
- B 15:21
- C 21:15
- D 25:31



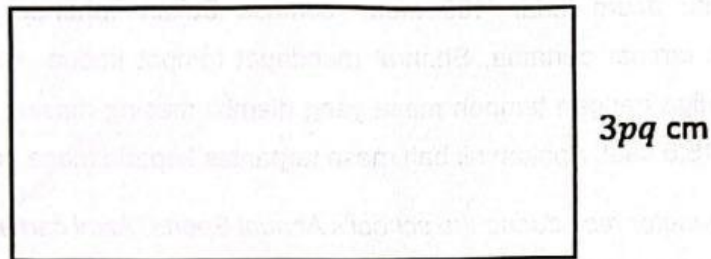
13. Antara berikut, yang manakah merupakan persamaan linear dalam satu pemboleh ubah?

*Which of the following is a linear equation in one variable?*

- A  $3(k - 5) = \frac{k}{3}$
- B  $7p - 3q = 16$
- C  $2y^2 + 3y = 12$
- D  $3x + 2y = 5$

14. Rajah 5 menunjukkan sebuah segi empat tepat. Diberi luas segi empat tepat tersebut ialah  $12p^3q^2 \text{ cm}^2$ . Ungkapkan panjang segi empat tepat tersebut dalam sebutan  $pq$ .

*Diagram 5 shows a rectangle. Given that the area of the rectangle is  $12p^3q^2 \text{ cm}^2$ . Express the length of the rectangle in terms of  $pq$ .*



Rajah 5/ Diagram 5

- A  $3pq \text{ cm}$
- B  $3p^2q \text{ cm}$
- C  $4pq \text{ cm}$
- D  $4p^2q \text{ cm}$

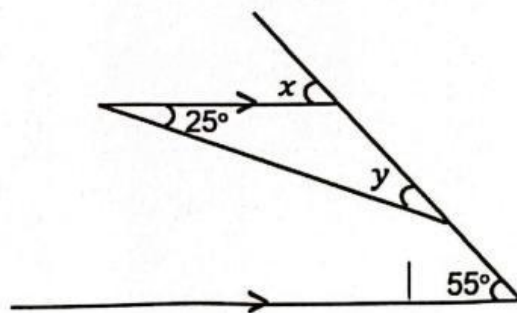
15. Zainab ingin mendermakan 2% daripada pendapatan bulanannya,  $P$  dalam RM kepada satu pertubuhan amal tempatan. Bentukkan satu ketaksamaan linear jika dermanya lebih daripada RM250 sebulan.

*Zainab wants to donate 2% of her monthly income,  $P$  in RM, to a local charity. Form a linear inequality if her donation is more than RM250 per month.*

- A  $p > 250$   
B  $p \geq 250$   
C  $\frac{2}{100}p > 250$   
D  $\frac{2}{100}p \geq 250$

16. Dalam Rajah 6, cari nilai  $x - y$ .

*In diagram 6, find the value of  $x - y$ .*



Rajah 6 / Diagram 6

- A  $25^\circ$   
B  $30^\circ$   
C  $55^\circ$   
D  $85^\circ$



17. Puan Milla menyimpan RM 48 500 pada kadar faedah 2.5% setahun dan dikompaun setiap 3 bulan di Bank Muharam. Hitung nilai matang pada akhir tahun kedua.

*Mrs Milla saves RM 48 500 in Bank Muharam at an interest rate of 2.5% per annum and the interest is compounded every 3 months. Calculate the matured value at the end of the second year.*

- A 50347.41
- B 50450.56
- C 50976.09
- D 50978.72

