

NAMA: TINGKATAN:

SULIT
1449/1
Matematik
Kertas 1
Nov 2022
 $1\frac{1}{2}$ jam

PEPERIKSAAN PERCUBAAN SPM
MATEMATIK
KERTAS 1
(1449/1)

1 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 22 halaman 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 $a^{\frac{m}{n}} = (a^{\frac{1}{n}})^m$

5 Faedah mudah / *Simple interest*, $I = Prt$

6 Faedah kompaun / *Compound interest*, $MV = P\left(1 + \frac{r}{n}\right)^{nt}$

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 = $\frac{\text{Jumlah jarak}}{\text{Jumlah masa}}$

$$\text{Average speed} = \frac{\text{Total distance}}{\text{Total time}}$$

4 $m = \frac{y_2 - y_1}{x_2 - x_1}$

5 $m = -\frac{\text{pintasan-y}}{\text{pintasan-x}}$

$$m = -\frac{\text{y-intercept}}{\text{x-intercept}}$$

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 = $\pi d = 2\pi j$
Circumference of circle = $\pi d = 2\pi r$
- 4 Luas bulatan = πj^2
Area of circle = πr^2
- 5 $\frac{\text{Panjang lengkok}}{2\pi j} = \frac{\theta}{360^\circ}$
 $\frac{\text{Arc length}}{2\pi r} = \frac{\theta}{360^\circ}$
- 6 $\frac{\text{Luas sektor}}{\pi j^2} = \frac{\theta}{360^\circ}$
 $\frac{\text{Area of sector}}{\pi r^2} = \frac{\theta}{360^\circ}$
- 7 Luas layang = $\frac{1}{2} \times$ hasil darab panjang dua pepenjuru
Area of kite = $\frac{1}{2} \times$ *product of two diagonals*
- 8 Luas trapezium = $\frac{1}{2} \times$ hasil tambah dua sisi selari \times tinggi
Area of trapezium = $\frac{1}{2} \times$ *sum of two parallel sides* \times *height*
- 9 Luas permukaan silinder = $2\pi j^2 + 2\pi jt$
Surface area of cylinder = $2\pi r^2 + 2\pi rh$
- 10 Luas permukaan kon = $\pi j^2 + \pi js$
Surface area of cone = $\pi r^2 + \pi rs$
- 11 Luas permukaan sfera = $4\pi j^2$
Surface area of sphere = $4\pi r^2$
- 12 Isi padu prisma = luas keratan rentas \times tinggi
Volume of prism = *area of cross section* \times *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 = $\frac{1}{3} \times$ luas tapak \times tinggi
Volume of pyramid = $\frac{1}{3} \times$ base area \times height
- 17 Faktor skala, $k = \frac{PA'}{PA}$
 Scale factor, $k = \frac{PA'}{PA}$
- 18 Luas imej = $k^2 \times$ luas objek
Area of image = $k^2 \times$ 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. $101_2 + 1101_2 =$

- A 10111_2
- B 10110_2
- C 10010_2
- D 1010_2

2. Jisim satu atom hidrogen ialah 1.7×10^{-24} g dan jisim satu atom oksigen ialah 2.7×10^{-23} g. Satu molekul air terdiri daripada dua atom hidrogen dan satu atom oksigen.

Cari jisim, dalam g, satu molekul air.

The mass of a hydrogen atom is 1.7×10^{-24} g and the mass of an oxygen atom is 2.7×10^{-23} g.

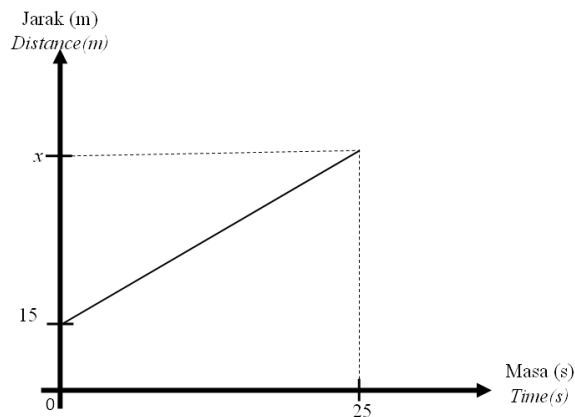
One molecule of water is made up of two hydrogen atoms and one oxygen atom.

Find the mass, in g, of one molecule of water.

- A 5.74×10^{-23}
- B 5.57×10^{-23}
- C 3.04×10^{-23}
- D 2.87×10^{-23}

3. Rajah 1 menunjukkan graf jarak-masa bagi seorang pelari.

Diagram 1 shows the distance-time graph of a runner.



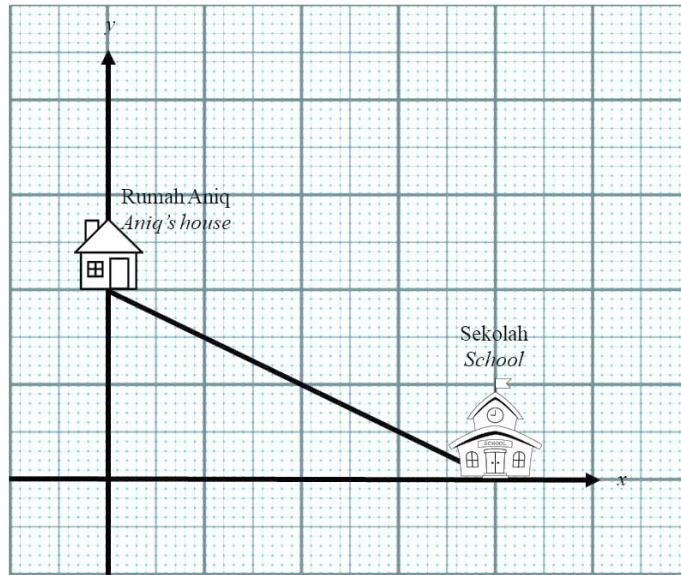
Rajah 1
Diagram 1

Diberi laju pelari itu ialah 5 ms^{-1} , apakah nilai bagi x ?

Given the speed of the runner is 5 ms^{-1} , what is the value of x ?

- A 100
- B 110
- C 125
- D 140

4. Rajah 2 menunjukkan kedudukan rumah Aniq dari sekolahnya.
 Diagram 2 shows the location of Aniq's house from his school.



Rajah 2
 Diagram 2

Menggunakan skala 2 cm : 2 unit pada kedua-dua paksi, hitung kecerunan rumah Aniq ke sekolahnya.

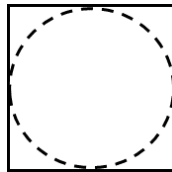
Using the scales of 2 cm : 2 units for both axes, calculate the gradient from Aniq's house to his school.

- A -2
- B $-\frac{1}{2}$
- C $\frac{1}{2}$
- D 2
5. Nisbah harga sehelai baju kurung kepada harga sehelai cheongsam ialah 7 : 4. Hitung harga sehelai cheongsam, jika harga sehelai baju kurung itu ialah RM 84.
 The ratio of the price of a baju kurung to the price of a cheongsam is 7 : 4. Calculate the price of a cheongsam, if the price of a baju kurung is RM 84.
- A RM 8
- B RM 16
- C RM 30
- D RM 48

6. Antara pernyataan berikut, yang manakah benar bagi sebuah rombus.
Which of the following statements is true for a rhombus?

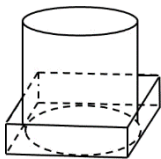
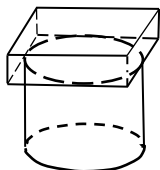

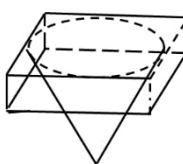
- A Mempunyai satu paksi simetri.
Has one axis of symmetry.
- B Sisi bertentangan adalah selari.
The opposite side is parallel.
- C Sudut bertentangan adalah berbeza saiz.
Opposite angles are different in size.
- D Hanya mempunyai dua sisi yang sama panjang.
Only have two sides of the same length.

7. Rajah 3 menunjukkan pelan bagi sebuah gabungan pepejal.
Diagram 3 shows the plan of a combined solid.

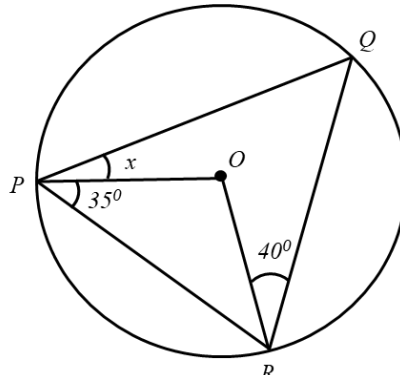


Rajah 3
Diagram 3

- Antara berikut, yang manakah mempunyai pelan seperti di atas?
Which of the following has the plan as above?

- A 
- B 
- C 
- D 

8. Rajah 4 menunjukkan bulatan berpusat di O . OPR adalah segi tiga sama kaki.
 Diagram 4 shows circle centered at O . OPR is an isosceles triangle.

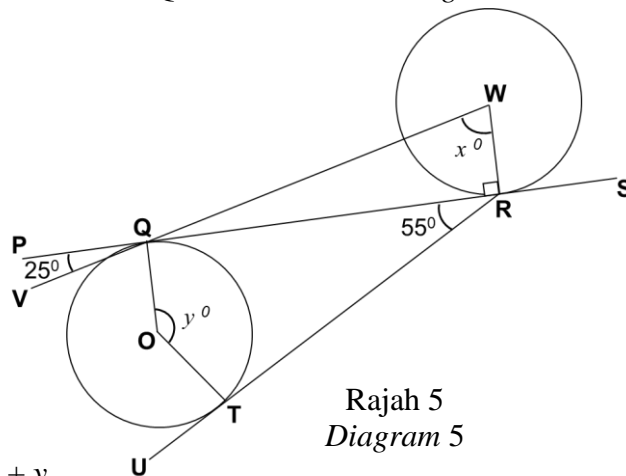


Rajah 4
 Diagram 4

Hitung nilai x .

Calculate the value of x .

- A 15°
 B 25°
 C 35°
 D 75°
9. Rajah 5 menunjukkan dua bulatan, masing-masing berpusat di O dan W . $PQRS$ ialah tangen sepunya kepada kedua-dua bulatan, masing-masing di Q dan R . RTU ialah tangen kepada bulatan.
 Diagram 5 shows two circles with center O and W respectively. $PQRS$ is a common tangent to both circles at Q and R . RTU is a tangent to the circle.



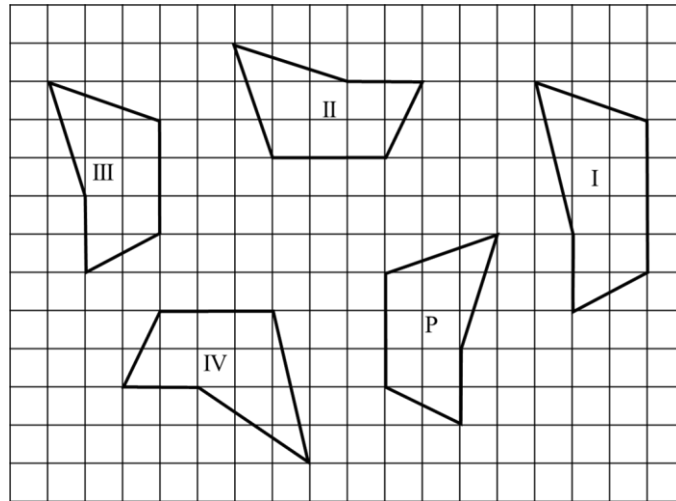
Rajah 5
 Diagram 5

Hitung nilai $x + y$.

Calculate the value of $x + y$.

- A 170°
 B 175°
 C 190°
 D 195°

10. Rajah 6 menunjukkan lima pentagon, P, I, II, III dan IV, dilukis pada suatu satah Cartes.
Diagram 6 shows five pentagons, P, I, II, III and IV, drawn on a Cartesian plane.

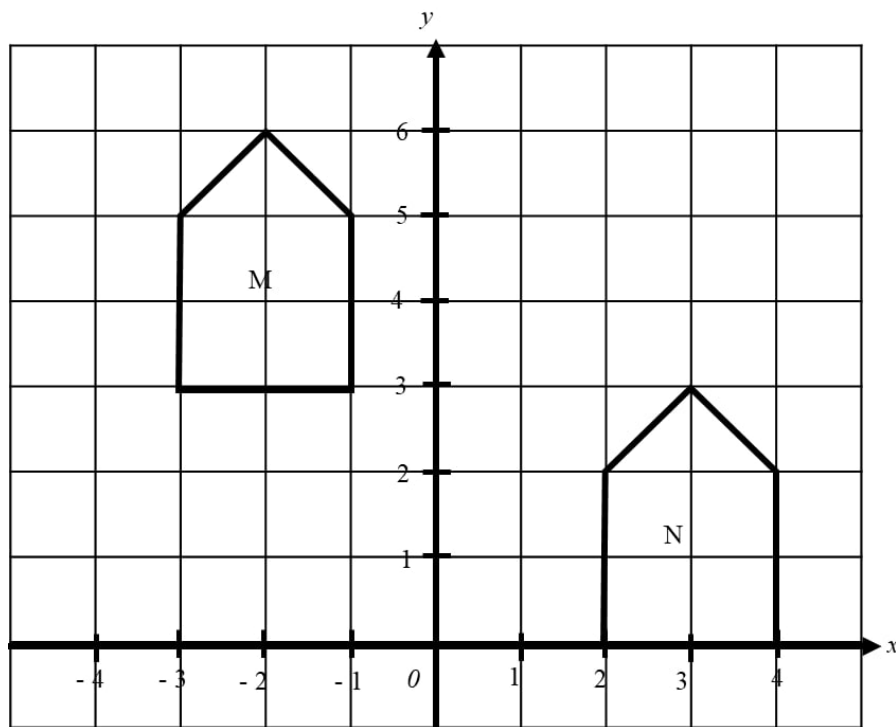


Rajah 6
 Diagram 6

Antara pentagon I, II, III dan IV, yang manakah kongruen dengan P?
Which of the pentagons I, II, III and IV, is the congruent to P?

- A I dan II
- B I dan IV
- C II dan III
- D II dan IV

11. Rajah 7 menunjukkan dua pentagon, M dan N, dilukis pada suatu satah Cartes.
 Diagram 7 shows two pentagons, M and N, drawn on a Cartesian plane.



Rajah 7
 Diagram 7

Huraikan translasi di atas, jika M ialah imej bagi N.
 Describe the translation above, if M is an image of N.

- A $\begin{pmatrix} 3 \\ -5 \end{pmatrix}$
- B $\begin{pmatrix} 5 \\ -3 \end{pmatrix}$
- C $\begin{pmatrix} -5 \\ 3 \end{pmatrix}$
- D $\begin{pmatrix} -3 \\ 5 \end{pmatrix}$

12. Ranjit melukis satu peta jalan raya yang menghubungkan dua buah bandar. Panjang sebenar jalan raya itu ialah 18.75 km. Dengan menggunakan skala 1:750 000, hitung panjang, dalam cm, jalan raya itu di atas peta.
Ranjit draws the map of a road that connect two towns. The actual length of the road is 18.75 km. By using the scale 1: 750 000, calculate the length, in cm, of the road on the map.
- A 0.25
 B 2.5
 C 25
 D 250
13. Puan Shasha ingin mengubahsuai rumahnya. Beliau bercadang untuk membuat pinjaman peribadi sebanyak RM 60 000 daripada Bank Sejahtera dengan tempoh pinjaman 7 tahun. Hitung kadar faedah pinjaman jika bayaran balik pinjaman ialah RM 74 700.
Mrs Shasha wants to renovate her house. She plans to make a personal loan of RM60 000 from Bank Sejahtera with the term of 7 years. Calculate the loan interest rate offered, if the total loan repayment is RM 74 700.
- A 0.035 %
 B 0.35 %
 C 3.5 %
 D 35 %
14. Kembangkan:
Expand:
- $$5y(x - y)$$
- A $xy - y^2$
 B $5xy - 5y^2$
 C $5x - y^2$
 D $5xy - 5y$
15. Chong mempunyai sebuah rumah di Taman Kristal Baiduri. Anggaran sewa rumahnya ialah RM 950 sebulan. Diberi kadar cukai pintu ialah 4%.
 Hitung cukai pintu yang perlu dibayar olehnya untuk setiap setengah tahun.
Chong owns a house in Taman Kristal Baiduri. The estimation of rental of her house is RM 950 per month. Given the property assessment tax rate is 4%. Calculate the property assessment tax payable by her for each half year.
- A RM158
 B RM228
 C RM316
 D RM456

16. Devi pergi ke kedai untuk membeli 13 batang pen dan 9 set geometri dengan harga masing-masing RMx dan RMy.
Devi went to the shop to buy 13 pens and 9 sets of geometry with the price of RMx and RMy respectively.

Ungkapkan jumlah harga yang perlu dibayar oleh Devi.

Express the total price that must be paid by Devi.

- A $117xy$
- B $22xy$
- C $13x + 9y$
- D $9x + 13y$

17. Diberi jujukan nombor -5, 2, 9, ...
Given the number sequence -5, 2, 9, ...

Nyatakan jumlah nilai sebutan ketujuh dan kesepuluh.

State the total value of seventh term and tenth term.

- A 58
- B 81
- C 95
- D 102

18. Diberi bahawa $2b = \frac{5}{3} - \frac{c}{6}$, ungkapkan c dalam sebutan b .

Given that, $2b = \frac{5}{3} - \frac{c}{6}$, express c in terms of b .

- A $c = 5 - 4b$
- B $c = 2(5 - 6b)$
- C $c = 6(6b - 5)$
- D $c = 30(1 - b)$

19. Senaraikan semua integer x yang memuaskan kedua-dua ketaksamaan linear serentak
 $9 - 4x < 1$ dan $\frac{1}{2}x + 3 \leq 6$.

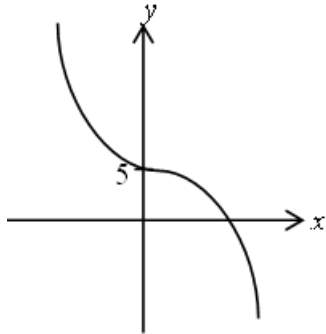
List all the integers x that satisfy both the simultaneous linear inequalities

$9 - 4x < 1$ and $\frac{1}{2}x + 3 \leq 6$.

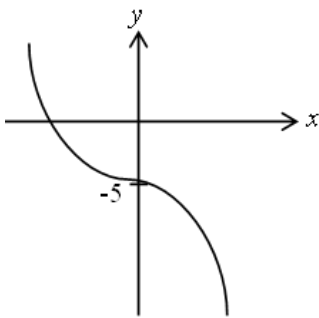
- A 2, 3, 4, 5
- B 2, 3, 4, 5, 6
- C 3, 4, 5
- D 3, 4, 5, 6

20. Graf yang manakah mewakili $y = -x^3 + 5$.
Which graph represents $y = -x^3 + 5$

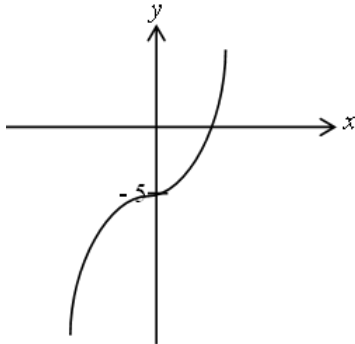
A



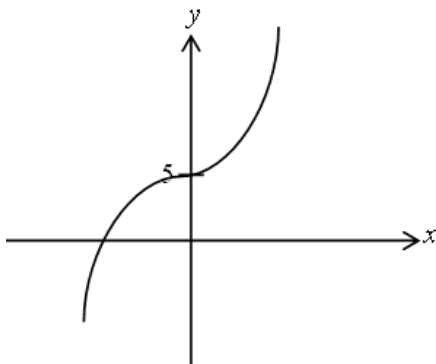
B



C



D



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SULIT

21. Ringkaskan:
Simplify:

$$\frac{2n^{-5} \times [8n^6]^{\frac{2}{3}}}{\left(\frac{4}{25}\right)^{\frac{1}{2}} n^5}$$

- A $\frac{20}{n^6}$
B $\frac{20}{n^4}$
C $\frac{40}{n^6}$
D $\frac{40}{n^4}$

22. Jadual 1 menunjukkan perbelanjaan Encik Azri dalam bulan Ogos.
Table 1 shows the expenses of Encik Azri in August.

Ansuran pinjaman perumahan <i>Housing loan installment</i>	RM1270
Ansuran pinjaman kereta <i>Car loan installment</i>	RM950
Barangan dapur <i>Groceries</i>	RM800
Utility <i>Utilities</i>	RM480
Belanja Petrol <i>Petrol expenses</i>	RM400
Insurans <i>Insurance</i>	RM320

Jadual 1
Table 1

Diberi bahawa 10% dari gaji bulanannya disimpan untuk dana kecemasan. Sekiranya beliau masih mempunyai lebihan tunai sebanyak RM 370, hitungkan pendapatan Encik Azri pada bulan tersebut.

Given that 10% of his monthly salary is saved for an emergency fund. If he still has a cash surplus of RM 370, calculate Mr Azri's income for that month.

- A RM5 000
 B RM5 100
 C RM5 200
 D RM5 300
23. Diberi bahawa $3p + r = (p + r)(r - 2)$, ungkapkan p dalam sebutan r .
Given that $3p + r = (p + r)(r - 2)$, express p in term of r .

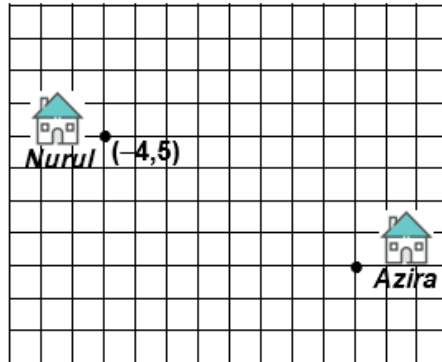
A $p = \frac{r^2 - r}{5 - r}$

B $p = \frac{r^2 - r}{5 + r}$

C $p = \frac{r^2 - 3r}{5 - r}$

D $p = \frac{r^2 + 3r}{5 + r}$

24. Rajah 8 menunjukkan kedudukan rumah Azira dan rumah Nurul.
Diagram 8 shows the location of Azira's house and Nurul's house.



Rajah 8
 Diagram 8

Azira dan Nurul merancang untuk membuat tugas Matematik bersama-sama. Lokasi pilihan mereka ialah rumah Siti, yang terletak di tengah-tengah di antara rumah mereka. Diberi bahawa rumah Nurul berada pada koordinat $(-4,5)$, hitung koordinat rumah Siti.
Azira and Nurul plan to do Mathematics assignment together. Their preferred location was Siti's house, which is located in the middle of their houses. Given that the coordinates of Nurul's house is $(-4,5)$, calculate the coordinates of Siti's house.

- A $(-4,2)$
- B $(2,-4)$
- C $(3, 0)$
- D $(0, 3)$

25.

- Menentusahkan dan mentafsir penyelesaian dalam konteks masalah berkenaan.
- *Verify and interpret solutions in the context of the problem*

Pernyataan di atas merupakan salah satu komponen penting yang perlu dilakukan bagi menyelesaikan masalah secara pemodelan Matematik. Pada kedudukan ke berapakah proses itu berlaku?

The above statement is an important component that needs to be done to solve problems through mathematical modelling. At what position the process occur?

- A 3
- B 4
- C 5
- D 6

26. Antara pernyataan berikut, yang manakah palsu?

Which of the following statements is false?

- A 4 atau 5 ialah nombor perdana.
4 or 5 is a prime number.
- B $2 + 3 = 6$ dan $5 \times 2 = 10$.
 $2 + 3 = 6$ and $5 \times 2 = 10$.
- C Sebilangan piramid mempunyai tapak segi empat sama.
Some pyramids have a square base.
- D Semua gandaan 4 ialah gandaan 2.
All multiples of 4 are multiples of 2.

27. Diberi bahawa set semesta, $\xi = \{x : 29 \leq x < 41, x \text{ ialah integer}\}$ dan set $P = \{x : x \text{ ialah nombor dengan keadaan hasil tambah dua digitnya ialah nombor genap}\}$.

Nyatakan set P'

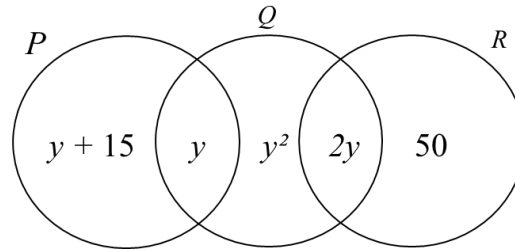
It is given that the universal set, $\xi = \{x : 29 \leq x < 41, x \text{ is an integer}\}$ and

set $P = \{x : x \text{ is a number such that the sum of its two digits is an even number}\}$.

State set P' .

- A {29, 30, 32, 34, 36, 38}
- B {29, 31, 33, 35, 37, 39}
- C {30, 32, 34, 36, 38, 40}
- D {31, 33, 35, 37, 39, 41}

28. Rajah 9 menunjukkan gambar rajah Venn dengan set semesta, $\xi = P \cup Q \cup R$.
Diagram 9 shows a Venn diagram with the universal set, $\xi = P \cup Q \cup R$.



Rajah 9
Diagram 9

Diberi $n(P \cup Q) = n(R)$, cari nilai $n(Q \cup R)$.

Given $n(P \cup Q) = n(R)$, find the value of $n(Q \cup R)$.

- A 40
B 60
C 90
D 110
29. Diberi suatu graf mempunyai set tepi, $E = \{(A, A), (A, B), (A, D), (B, D), (B, C), (C, D)\}$.
Tentukan bilangan darjah pada bucu A, B dan C.
Given a graph has the set of edges $E = \{(A, A), (A, B), (A, D), (B, D), (B, C), (C, D)\}$.
Determine the number of degrees for vertices A, B and C.
- A $d(A) = 3, d(B) = 3, d(C) = 2$
B $d(A) = 3, d(B) = 3, d(C) = 3$
C $d(A) = 3, d(B) = 3, d(C) = 3$
D $d(A) = 4, d(B) = 3, d(C) = 2$

30.
$$\sqrt[3]{-1\frac{61}{64}} =$$

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

31. Rajah 10 menunjukkan jisim, dalam gram (g), bawang yang terdapat di sebuah pasar mini.

Diagram 10 shows the mass, in grams (g), of onions in a mini market.

Batang <i>Stem</i>	Daun <i>Leaf</i>								
20	<i>x</i>	7	8						
21	2	3	6	6	9				
22	0	2	3	4	6	7	7	8	8

Kekunci: 21 | 2 bermaksud 212 g

Key: 21 | 2 means 212 g

Rajah 10
Diagram 10

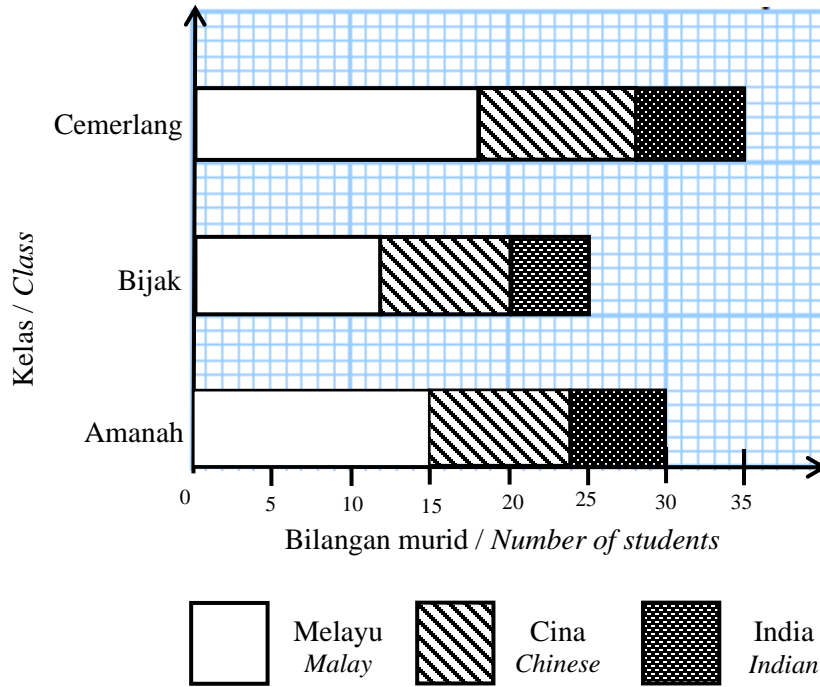
Julat bagi taburan jisim bawang ialah 22 g. Hitung nilai x .

The range for the onions mass distribution is 22 g. Calculate the value of x .

- A 6
- B 7
- C 8
- D 9

32. Rajah 11 menunjukkan carta palang yang mewakili bilangan murid dalam tiga kelas mengikut bangsa.

Diagram 11 shows a bar chart representing the number of students in three classes based on races.



Rajah 11
Diagram 11

Jika data di atas diwakili dalam bentuk carta pai, cari beza sudut sektor untuk murid Melayu dan murid Cina bagi tiga kelas itu.

If the data above is represented in a pie chart, find the difference angle of the sector for Malay and Chinese students of the three classes.

- A 180°
- B 108°
- C 72°
- D 18°

33. Budin membeli 10 ekor ikan laga di pasar tani. Nisbah ikan jantan kepada ikan betina yang dibeli oleh Budin ialah 2 : 3. Jika seekor ikan didapati mati, hitung kebarangkalian ikan yang mati adalah ikan jantan.

Budin bought 10 betta fish at the farmers market. The ratio of male fish to female fish purchased by Budin is 2 : 3. If a fish is found dead, calculate the probability of a dead fish is a male fish.

- A. $\frac{2}{3}$
- B. $\frac{2}{5}$
- C. $\frac{3}{5}$
- D. $\frac{3}{7}$

34. Jadual 2 menunjukkan hasil jualan tiga jenis novel di Kedai Buku Doremi mengikut jantina.

Table 2 shows the sales results of three types of novels by Doremi Bookstore according to buyer's gender.

Novel \ Jantina Gender	Lelaki Male	Perempuan Female
Kanak-kanak <i>Children</i>	$\frac{1}{4}$	X
Remaja <i>Teenagers</i>	Y	$\frac{3}{8}$
Fiksyen <i>Fiction</i>	$\frac{7}{12}$	$\frac{5}{12}$

Jadual 2

Table 2

Diberi jumlah jualan novel ialah 240 buah. Jualan novel fiksyen adalah separuh daripada jumlah jualan keseluruhan.

Cari kebarangkalian X dan Y, sekiranya jualan novel remaja adalah dua kali ganda jualan novel kanak-kanak.

Given the total sales of the novel is 240 pieces. The fiction novel sales is half of the total sales.

Find the probability X and Y, if sales of teenage novels are twice the sales of children novels.

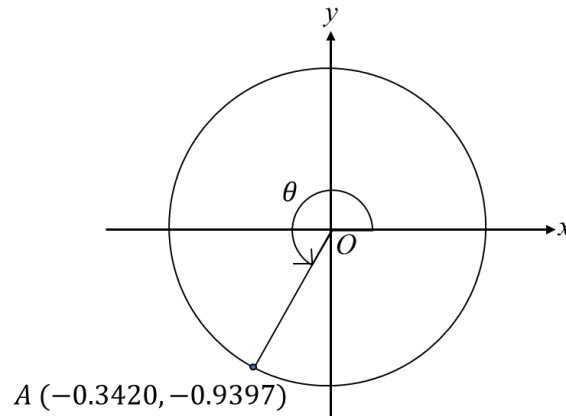
A $\frac{1}{96}$

B $\frac{3}{16}$

C $\frac{5}{24}$

D $\frac{3}{4}$

35. Rajah 12 menunjukkan sebuah bulatan unit dengan $0^\circ \leq x \leq 360^\circ$ berpusat O .
 Diagram 12 shows a unit circle with $0^\circ \leq x \leq 360^\circ$ centre O .



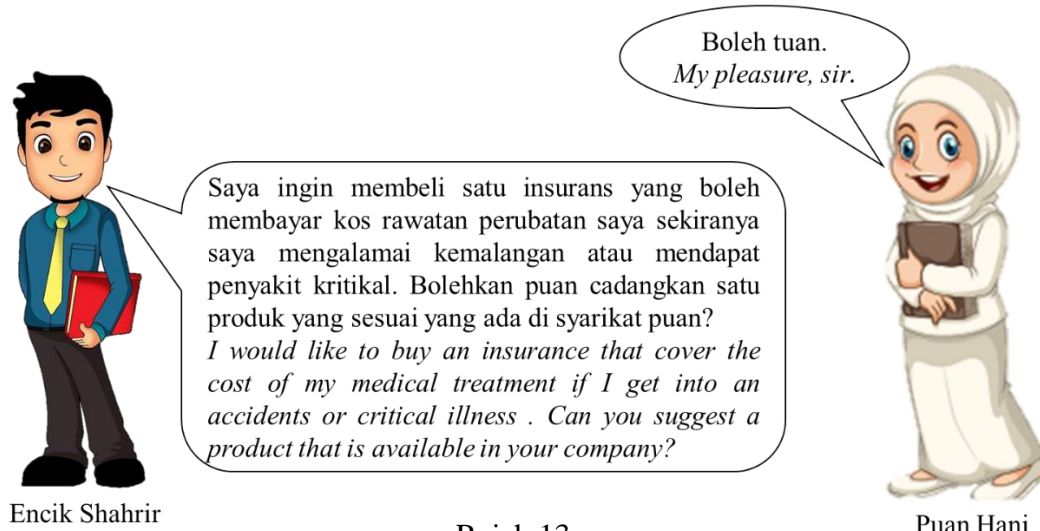
Rajah 12
 Diagram 12

Diberi koordinat A $(-0.3420, -0.9397)$. Hitung sudut θ .
 Given that A $(-0.3420, -0.9397)$. Calculate angle of θ .

- A 70
 B 110
 C 200
 D 250
36. T berubah secara langsung dengan g dan secara songsang dengan punca kuasa tiga h .
 Diberi $T = -48$ apabila $g = 12$ dan $h = -125$. Ungkapkan T dalam sebutan g dan h .
T varies directly as g and inversely as cube root of h . Given that $T = -48$ when $g = 12$ and $h = -125$. Express T in term of g and h .

- A $T = \frac{20g}{\frac{1}{h^3}}$
 B $T = \frac{20g}{\frac{1}{h^2}}$
 C $T = \frac{20g}{\sqrt{h}}$
 D $T = \frac{20g^3}{\sqrt{h}}$

- 37 Rajah 13 menunjukkan sesi perbualan di antara Encik Shahrir dan seorang agen insurans. *Diagram 13 shows a conversation between Encik Shahrir and an insurance agent.*

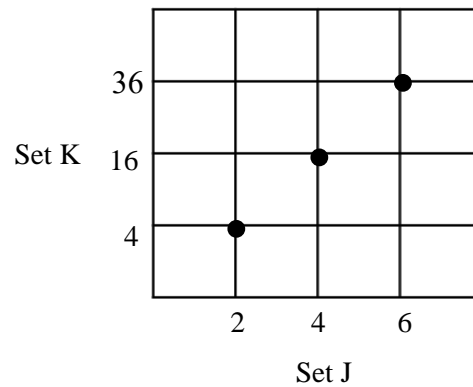


Rajah 13
Diagram 13

Nyatakan produk insurans yang sesuai dibeli oleh Encik Shahrir.
State a suitable insurance product that Encik Shahrir should buy.

- A Insurans kemalangan diri
Personal accident insurance
- B Insurans perjalanan
Travel insurance
- C Insurans motor
Motor insurance
- D Insurans kesihatan dan perubatan
Health and medical insurance

- 38 Berdasarkan graf pada rajah 14, tentukan pasangan tertib yang sesuai.
Based on the graph at diagram 14, specify the pairs of the appropriate order.



Rajah 14
 Diagram 14

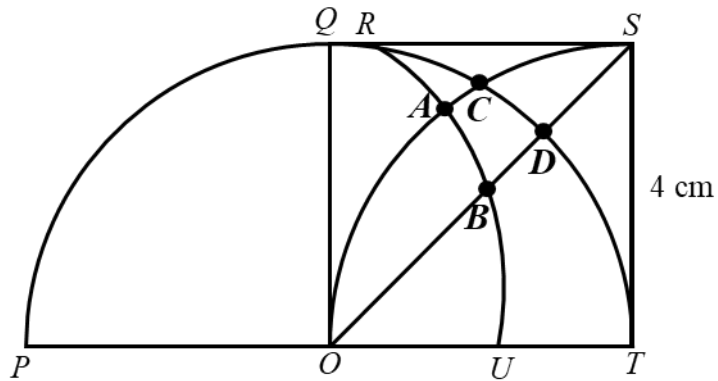
- A $\{(4,2), (16,4), (36,6)\}$
 B $\{(2,16), (4,4), (6,36)\}$
 C $\{(2,4), (4,16), (6,36)\}$
 D $\{(4,2), (4,16), (6,36)\}$
39. Diberi bahawa $\begin{pmatrix} 4 & 9 \\ 5 & 8 \end{pmatrix} + \begin{pmatrix} 8 & 6 \\ 10 & 13 \end{pmatrix} = 3 \begin{pmatrix} 4 & 5 \\ m & 7 \end{pmatrix}$
 Hitung nilai m .

*It is given that $\begin{pmatrix} 4 & 9 \\ 5 & 8 \end{pmatrix} + \begin{pmatrix} 8 & 6 \\ 10 & 13 \end{pmatrix} = 3 \begin{pmatrix} 4 & 5 \\ m & 7 \end{pmatrix}$
 Calculate the value of m .*

- A 3
 B 4
 C 5
 D 6

40. Dalam rajah 15, OPQT ialah semibulatan berpusat O dan OQST ialah segiempat sama. RABU ialah lengkok bulatan berpusat di P dengan jejari 6 cm dan OACS ialah sukuan bulatan berpusat T .

In diagram 15, OPQT is a semicircle with centre O and OQST is a square. RABU is the arc of circle at centre P with a radius of 6 cm and OACS is a quadrant with centre T .



Rajah 15
Diagram 15

X dan Y ialah lokus bagi dua titik yang bergerak dalam rajah supaya $XT = 4$ cm dan $YP = 6$ cm.

Antara titik A, B, C dan D, yang manakah titik persilangan bagi lokus X dan Y?

X and Y are the loci of two moving points in the diagram such that $XT = 4$ cm and $YP = 6$ cm.

Which of the points, A, B, C or D, is the point of intersection of the locus of X and Y?

KERTAS SOALAN TAMAT
END OF QUESTION PAPER