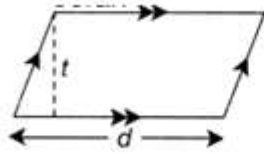


2019 PT3 MATHEMATICS (PRACTICE)

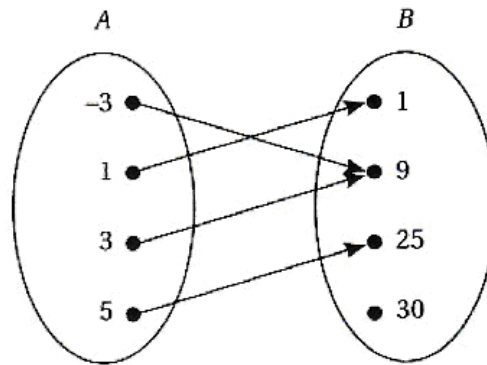
- (d) Rhombus or Parallelogram
Rombus atau Sisi empat selari...



Area = base \times height
= dt
Luas = tapak \times tinggi
= dt

QUESTION 1

- (a) Rajah 1(a) menunjukkan hubungan antara set A dan set B.
Diagram 1(a) shows the relationship between set A and set B.



Rajah 1(a)/Diagram 1(a)

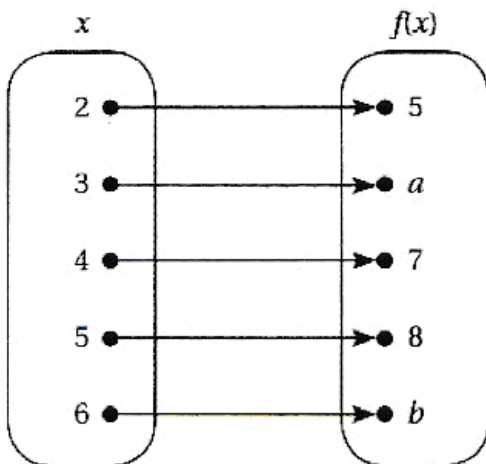
Berdasarkan Rajah 1(a), nyatakan
Based on the Diagram 1(a), state

- (i) jenis hubungan itu,
the relationship,
(ii) julat hubungan itu.
the range.

- (a) (i) Banyak kepada satu / Many to one
(ii) {1, 9, 25}

[2 markah / marks]

- (c) Rajah 1(c) menunjukkan fungsi $f(x) = x + 3$ bagi domain $2 \leq x \leq 6$.
Diagram 1(c) shows the function $f(x) = x + 3$ for the domain $2 \leq x \leq 6$.



Rajah 1(c)/Diagram 1(c)

Berdasarkan Rajah 1(c), nyatakan
Based on the Diagram 1(c), state

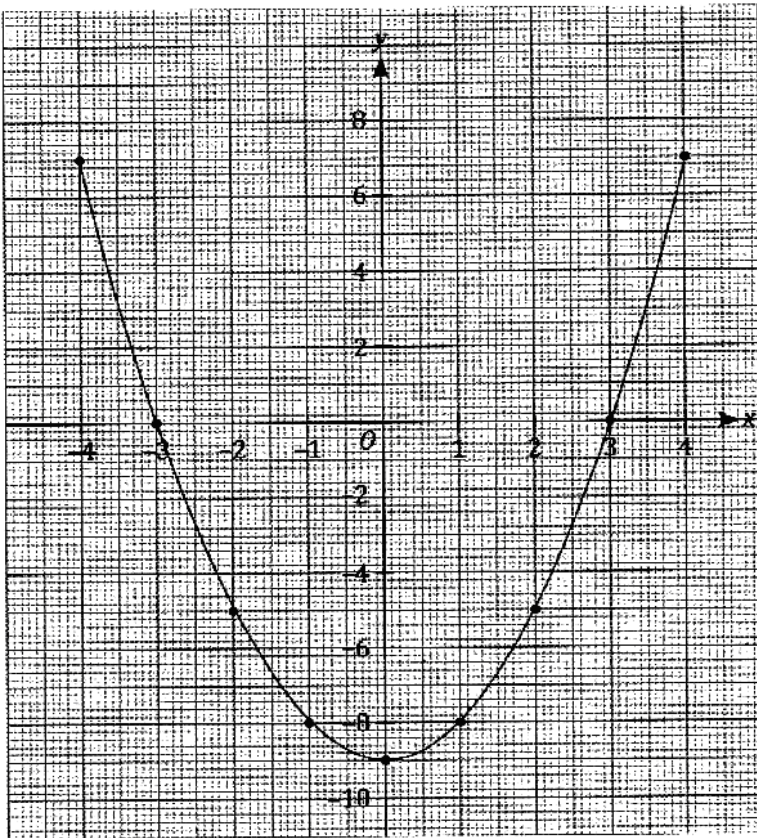
- (i) nilai a dan b ,
the value of a and b ,
(ii) domain hubungan ini,
the domain of the relationship,
(iii) julat hubungan ini.
the range of the relationship.

- (c) (i) $a = 3 + 3 = 6$
 $b = 6 + 3 = 9$
(ii) {2, 3, 4, 5, 6}
(iii) {5, 6, 7, 8, 9}

[4 markah / marks]

QUESTION 2

Rajah 1(b) menunjukkan graf suatu fungsi.
 Diagram 1(b) shows the graph of a function.



Rajah 1(b)/ Diagram 1(b)

Daripada graf, cari nilai-nilai x apabila $y = -4$.
 From the graph, find the values of x when $y = -4$.

Jawapan/ Answer:

(b) $x = -2.2, x = 2.2$

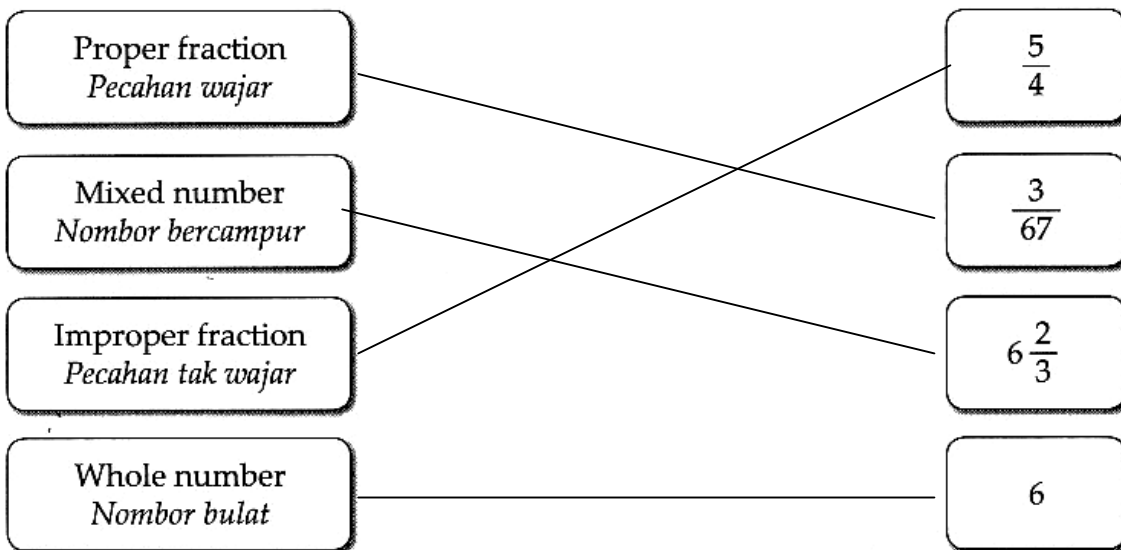
[2 markah/ marks]

QUESTION 3

Match each of the following names with the correct number.
 Padankan setiap nama yang berikut dengan nombor yang betul.

[4 marks/markah]

Answer/Jawapan:



QUESTION 4

Table 3 shows the fractions and diagrams with shaded parts.

In the answer space, state whether the fractions and the shaded parts are equivalent or not equivalent.

Jadual 3 menunjukkan pecahan dan rajah dengan bahagian berlorek.

Pada ruang jawapan, nyatakan sama ada pecahan dan bahagian berlorek adalah setara atau tidak setara.

Answer/Jawapan:


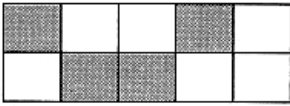
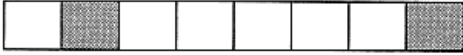

	Fraction <i>Pecahan</i>	Shaded part <i>Bahagian berlorek</i>	Equivalent Not equivalent <i>Setara/Tidak setara</i>
(i)	$\frac{4}{16}$		
(ii)	$\frac{4}{5}$		
(iii)	$\frac{12}{18}$		
(iv)	$\frac{2}{5}$		

Table 3/Jadual 3

[4 marks/markah]

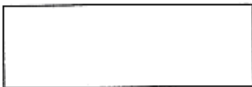
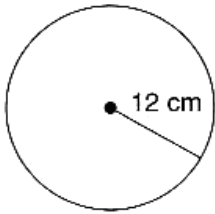
D		
HCF	LCM	
5 20, 35	5 20, 35	
4, 7	4, 7	
	7 1, 7	
	1, 1	
$\frac{LCM}{HCF} = \frac{7 \times 4 \times 5}{5} = 28$		

QUESTION 5

- (a) Write the actual length of the drawings in the answer space provided.
Tulis panjang sebenar bagi lukisan berikut dalam ruang jawapan yang disediakan.

[2 marks]
 [2 markah]

Answer / Jawapan:

Drawing / Lukisan	Scale / Skala	Actual length / Panjang sebenar
 4 cm	1 : 6	24 cm
 12 cm	1 : $\frac{1}{3}$	4 cm

- (b) Complete the table below.
Lengkapkan jadual di bawah.

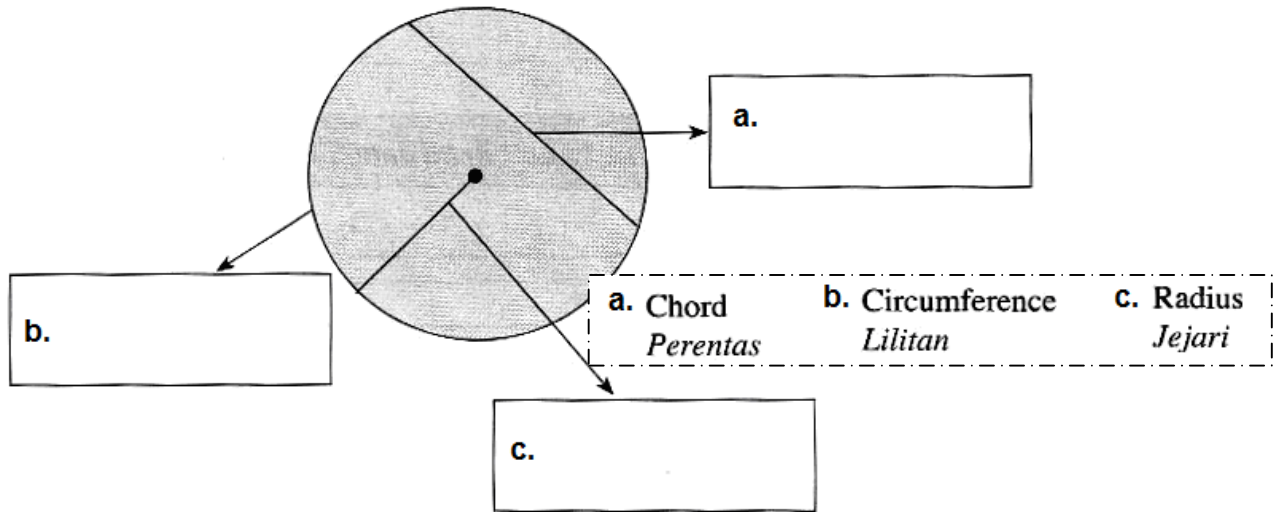
Angle at centre Sudut pada pusat	Radius Jejari	Length of arc Panjang lengkok	Area of sector Luas sektor
62°	12 cm		

Answer: 12.99cm ; 77.9cm²

QUESTION 6

- (a) Choose the given answer and complete the diagram below.
 Pilih jawapan yang diberikan dan lengkapkan rajah di bawah.

[3 marks]
 [3 markah]



Chord <i>Perentas</i>	Radius <i>Jejari</i>	Minor Arc <i>Lengkuk minor</i>
Diameter <i>Diameter</i>	Segment <i>Tembereng</i>	Circumference <i>Lilitan</i>

- (b) Diagram 1 shows a sector of a circle.
 Rajah 1 menunjukkan satu sektor bulatan.

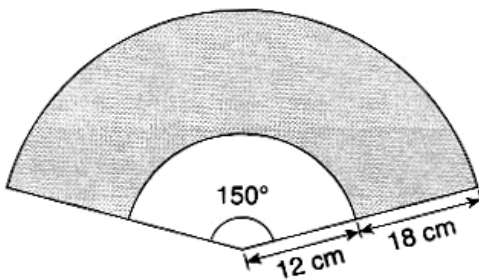


Diagram 1
 Rajah 1

Calculate the area of the shaded region. (Use $\pi = \frac{22}{7}$)

Kira luas kawasan berlorek. (Guna $\pi = \frac{22}{7}$)

(b) 990 cm²

[3 marks]
 [3 markah]

QUESTION 7

- (b) Complete the steps below by filling in the boxes with the correct answers.
 Lengkapkan jalan kerja di bawah dengan jawapan yang betul.

[4 marks]
 [4 markah]

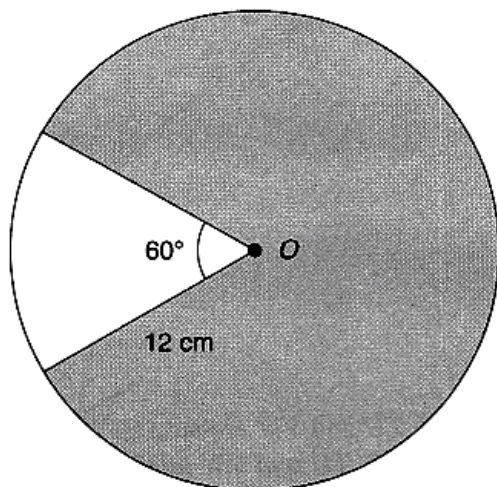
Answer / Jawapan:

$$\begin{aligned} & \sqrt[3]{2\frac{10}{27}} + \sqrt{1\frac{17}{64}} \\ &= \sqrt[3]{\frac{\square}{27}} + \sqrt{\frac{\square}{64}} \\ &= \frac{\square}{3} + \frac{9}{8} \\ &= \square \end{aligned}$$

$$\begin{aligned} \text{(b)} \quad & \sqrt[3]{2\frac{10}{27}} + \sqrt{1\frac{17}{64}} \\ &= \sqrt[3]{\frac{64}{27}} + \sqrt{\frac{81}{64}} \\ &= \frac{4}{3} + \frac{9}{8} \\ &= \frac{59}{24} \end{aligned}$$

QUESTION 8

- (b) (i) Diagram 9 shows a circle with centre O .
 Rajah 9 menunjukkan sebuah bulatan yang berpusat O .



Calculate the area, in cm^2 , of the shaded region. [Use $\pi = \frac{22}{7}$]
 Kira luas, dalam cm^2 , kawasan berlorek.

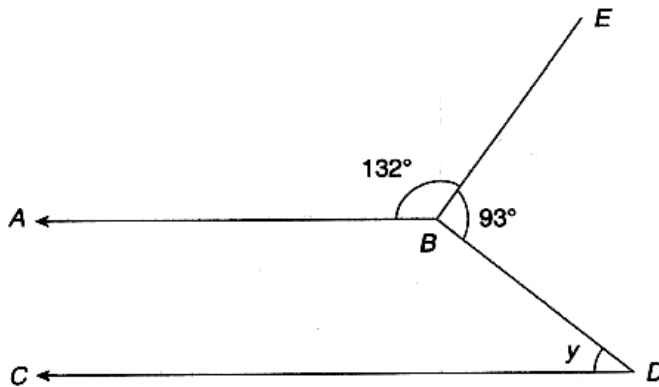
Answer / Jawapan:

$$\text{(i) } 377.14 \text{ cm}^2$$

Diagram 9
 Rajah 9

[2 marks]
 [2 markah]

- (ii) Diagram 10 shows two parallel lines, AB and CD .
Rajah 10 menunjukkan dua garis selari, AB dan CD .



(ii) 45°

Diagram 10
Rajah 10

QUESTION 9

- (a) Simplify $\frac{25mn^2}{10m^2n - 5mn^2}$.

Permudahkan $\frac{25mn^2}{10m^2n - 5mn^2}$.

Answer / *Jawapan:*

(a) $\frac{5n}{2m - n}$

[4 marks]
 [4 markah]

QUESTION 10

- (c) Diagram 6 show a trapezium.

Rajah 6 menunjukkan sebuah trapezium.

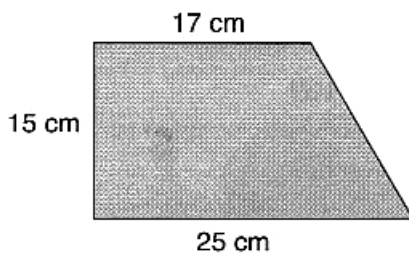


Diagram 6
Rajah 6

Find the perimeter of the trapezium.
Carikan perimeter bagi trapezium itu.

(c) 74 cm

[3 marks]
 [3 markah]

QUESTION 11

(a) Factorize each of the following.

Faktorkan setiap yang berikut.

(i) $5mn^2 - 15mn - 10m^2n$

(ii) $12su + 3uv - 4ts - tv$

Answer / Jawapan:

(i) $5mn(n - 3 - 2m)$
 (ii) $(4s + v)(3u - t)$

[4 marks]

[4 markah]

QUESTION 12

(b) Diagram 7, 8 and 9 shows a part of a regular polygon.

Find the number of sides of the polygon.

Rajah 7, 8, dan 9 menunjukkan sebahagian daripada poligon sekata.

Cari bilangan sisi poligon itu.

[6 marks]

[6 markah]

Answer / Jawapan:

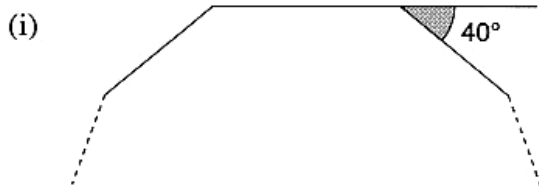


Diagram 7
Rajah 7

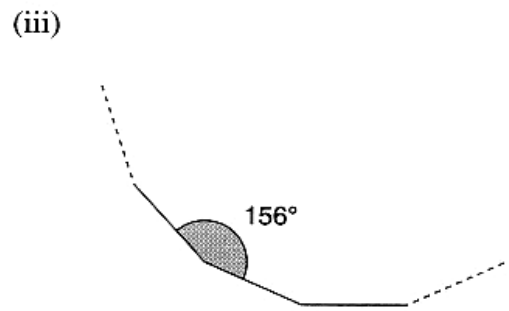


Diagram 9
Rajah 9

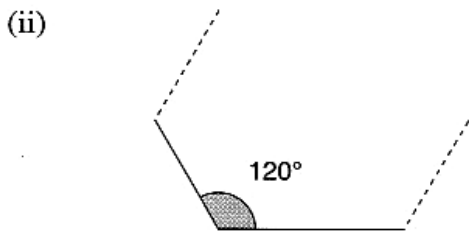


Diagram 8
Rajah 8

(i) 9 sides 9 sisi	(ii) 6 sides 6 sisi	(iii) 15 sides 15 sisi
-----------------------	------------------------	---------------------------

QUESTION 13

Isi tempat kosong dengan jawapan yang tepat.

Fill in the blanks with the correct answers.

[4 markah / 4 marks]

Jawapan / Answer:

- (i) _____ ialah permukaan rata pada suatu objek. Terdapat tiga jenis satah iaitu
 (ii) _____, (iii) _____ dan
 (iv) _____.

- (i) A _____ is the flat surface of an object. There are three types of planes which are
 (ii) _____, (iii) _____ and
 (iv) _____.

- (i) satah / plane
 (ii) satah mengufuk / horizontal plane
 (iii) satah mencancang / vertical plane
 (iv) satah condong / inclined plane

QUESTION 14

- (a) Lengkapkan pernyataan berikut.
 Complete the following statement.

[1 markah / 1 mark]

Jawapan / Answer:

Unjuran ortogon ialah imej yang terbentuk pada suatu satah apabila unjuran garis dari objek _____ dengan satah tersebut.

Orthogonal projection is an image formed on a plane when the projection of a line from an object is _____ to the plane.

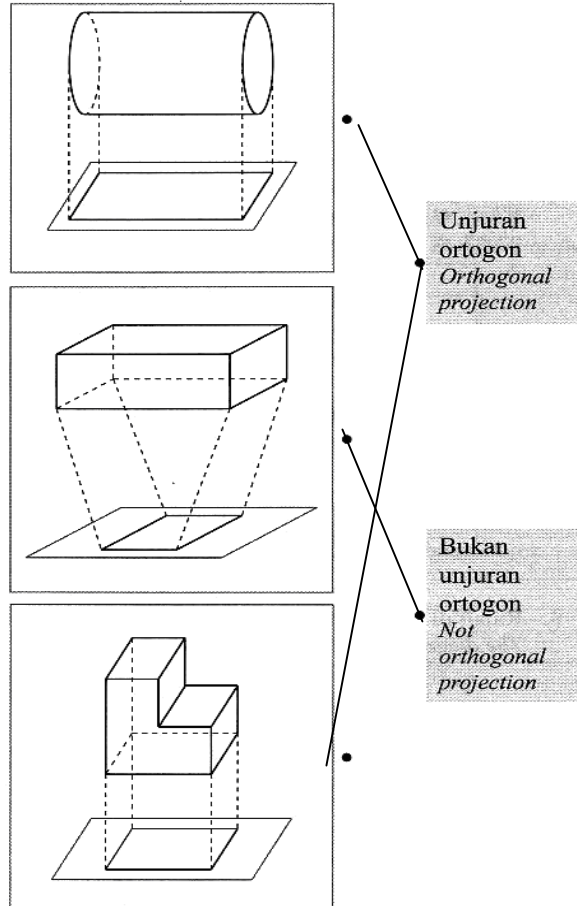
- (b) Setiap rajah yang berikut menunjukkan pepejal dan unjurannya pada satu satah mengufuk. Padankan sama ada unjuran itu ialah unjuran ortogon bagi pepejal itu atau bukan.

Each of the following diagrams shows the solid and its projection on a horizontal plane. Match whether the projection is an orthogonal projection of the solid or not.

[3 markah / 3 marks]

- (a) berserenjang / perpendicular

Jawapan / Answer:



QUESTION 15

Berdasarkan pernyataan yang diberikan, padankan dengan jenis lokus yang sesuai.
 Based on the statements given, match with the suitable loci.

Subtopik 8.2

[4 markah / 4 marks]

Jawapan / Answer :

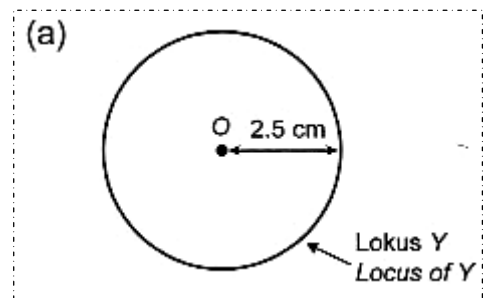
<p>(i) Lokus bagi titik Y yang sentiasa berjarak 3 cm dari titik P. <i>Locus of point Y that is always 3 cm from point P.</i></p>		Pembahagi dua sama serenjang <i>Perpendicular bisector</i>
<p>(ii) Lokus bagi titik X dengan keadaan jaraknya sama dari PQ dan RS. <i>Locus of point X that is equidistant from PQ and RS.</i></p>		Bulatan <i>Circle</i>
<p>(iii) Lokus bagi titik Y iaitu $YP = YQ$. <i>Locus of point Y that is $YP = YQ$.</i></p>		Garis selari <i>Parallel line</i>
<p>(iv) Lokus bagi titik Z yang sentiasa berjarak 5 cm dari titik O. <i>Locus of point Z that is always 5 cm from point O.</i></p>		

QUESTION 16

- (a) Bina lokus bagi titik Y dengan keadaan jaraknya sentiasa 2.5 cm dari titik O .
 Construct the locus of point Y such that its distance from O is always 2.5 cm.

Subtopik 8.2

Jawapan / Answer : [2 markah / 2 marks]



QUESTION 17

Bagi setiap set data yang berikut, cari **112**

For each set of data given below, find the

(i) mod, (ii) min dan (iii) median bagi set data tersebut.

(i) mode, (ii) mean and (iii) median of the set of data.

Contoh

5, 9, 7, 4, 5, 10, 4, 5, 9, 6

Susun dalam tertib menaik/Arrange in ascending order

4, 4, 5, 5, 5, 6, 7, 9, 9, 10

(i) mod = 5 (kekerapan = 3, paling kerap)

mode = 5 (frequency = 3, the highest)

(iii) Median = $\frac{5 + 6}{2}$
= 5.5

(ii) min/mean = $\frac{4 + 4 + 5 + 5 + 5 + 6 + 7 + 9 + 9 + 10}{10}$
= $\frac{64}{10} = 6.4$

(a)

Umur (tahun) Age (year)	10	11	12	13	14	15
Kekerapan Frequency	2	5	1	2	4	6

(b) 47, 43, 52, 55, 41, 43, 43, 47, 52, 56, 42, 48

(a)	(i) 15	(ii) 13.5	(iii) 12.95
(b)	(i) 43	(ii) 47	(iii) 47.42

18. a) Find the value of

Cari nilai bagi $\frac{k^8 \times k^{-2}}{k}$.

$$\frac{k^8 \times k^{-2}}{k} = \frac{k^{8+(-2)}}{k^1}$$

$$= k^{6-1}$$

$$= k^5$$

b) Find the value of / Cari nilai bagi

$$(2a^2b)^2 \times a^{-2}b^{-3}$$

$$(2a^2b)^2 \times a^{-2}b^{-3}$$

$$= 2^2 a^4 b^2 \times a^{-2} b^{-3}$$

$$= 4a^2 b^{-1}$$

$$= \frac{4a^2}{b}$$

$a^{-n} = \frac{1}{a^n}$

$$2. \frac{64^{\frac{5}{3}}}{2^{-4} \times 32^{\frac{3}{5}}} = \frac{(2^6)^{\frac{5}{3}}}{2^{-4} \times (2^5)^{\frac{3}{5}}}$$

$\leftarrow (ab)^n = a^n b^n$

$$= \frac{2^{10}}{2^{-4} \times 2^3}$$

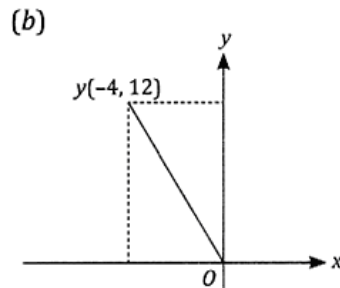
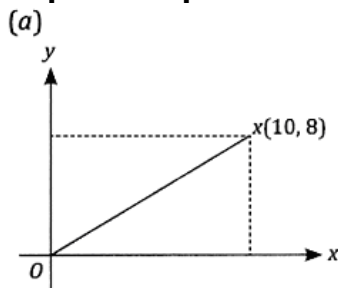
$\leftarrow a^m \times a^n = a^{m+n}$

$$= 2^{10-(-4)-3}$$

$\leftarrow \frac{a^m}{a^n} = a^{m-n}$

$$= 2^{11}$$

19. Hitung kecerunan garis lurus yang melalui setiap pasangan titik berikut. Calculate the gradient of straight line which passes through the following pairs of points.



[4 markah/ marks]

$$(a) m = \frac{8-0}{10-0}$$

$$= \frac{8}{10}$$

$$= \frac{4}{5}$$

$$(b) m = \frac{12-0}{(-4)-0}$$

$$= \frac{12}{-4}$$

$$= -3$$

20. The gradient of the straight line $3x + 2y = 5$ is

Kecerunan bagi garis lurus $3x + 2y = 5$ ialah

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

$$3x + 2y = 5$$

$$2y = -3x + 5$$

$$y = -\frac{3}{2}x + \frac{5}{2} \rightarrow y = mx + c$$

\therefore Gradient = $-\frac{3}{2}$ C

QUESTION 21

Determine the y - intercept of the straight line Cari pintasan-y bagi garis lurus

$$4x + 2y + 5 = 0.$$

- A $\frac{5}{2}$ B $-\frac{5}{2}$ C $\frac{5}{4}$ D $-\frac{5}{4}$

$$4x + 2y + 5 = 0$$

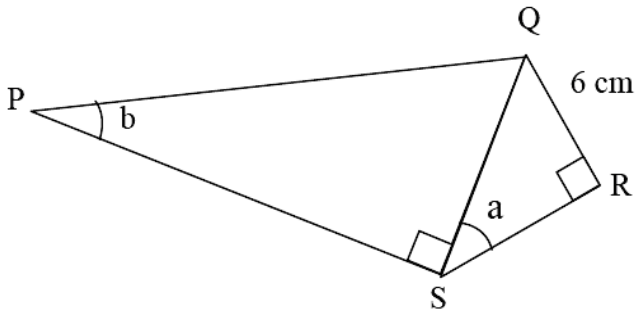
$$x = 0, \text{ y-intercept} = ?$$

$$4(0) + 2y + 5 = 0$$

$$2y = -5 \quad y = -\frac{5}{2} \dots B$$

QUESTION 22

1. Given that $\sin a = \frac{3}{5}$ and $\cos b = \frac{12}{13}$.



(a) Find the value of $\cos a^\circ$. / Carikan nilai kos a°

(b) Find the length of PS / Panjang PS

Remark / Panduan
Label the diagram with the point given
Labelkan rajah dengan nilai yang diberi.

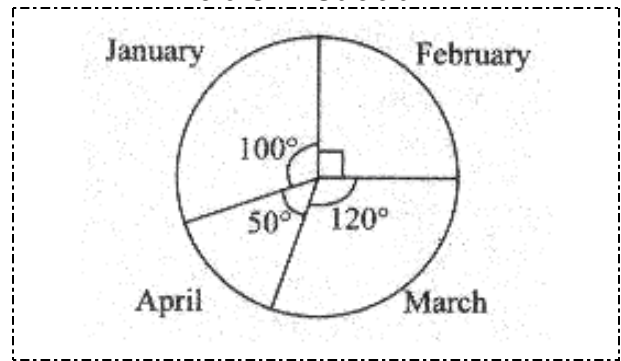
i) 3, 4, 5 → 6, 8, 10
ii) 5, 12, 13 → 10, 24, 26

THEN, refer to the question given, answer the following (a) and (b).
Kemudian, rujuk pada soalan yang diberi, jawab soalan berikut, (a) dan (b).

QUESTION 23

a. Draw a pie chart / Lukiskan carta pai

Day/hari	Number of visitors Bilangan pelancong
January/ Januari	10
February/ Februari	9
March / Mac	12
April / April	5



b. Jadual 2(b) menunjukkan jenis kenderaan yang dinaiki oleh 40 orang pelajar untuk ke sekolah. Table 2(b) shows the types of vehicles used by 40 students to go to school.

Jenis kenderaan Type of vehicles	Bilangan pelajar Number of students
Kereta Car	12
Bas Bus	13
Motosikal Motorcycle	9
Basikal Bicycle	6

Jadual 2(b)/Table 2(b)

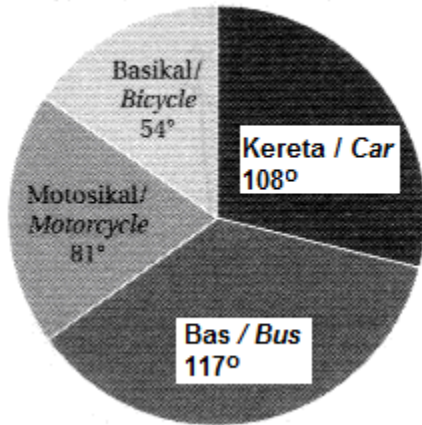
Bina satu carta pai untuk mewakili data di atas dan berikan justifikasi kepada kesesuaian perwakilan daia ini.

Construct a pie chart to represent the above data and give justification for the suitability of this data representation.

[3 marks]

Kereta Car	$\frac{12}{40} \times 360^\circ = 108^\circ$
Bas Bus	$\frac{13}{40} \times 360^\circ = 117^\circ$
Motosikal Motorcycle	$\frac{9}{40} \times 360^\circ = 81^\circ$
Basikal Bicycle	$\frac{6}{40} \times 360^\circ = 54^\circ$

Jenis Kenderaan yang Dinaiki oleh Pelajar
The Types of Vehicles Taken by Students



Carta pai sesuai digunakan untuk membuat perbandingan antara setiap jenis kenderaan dengan bilangan pelajar yang menaikinya. Pie chart is suitably used to make a comparison between each types of vehicles with the number of students riding them.

24. List all the possible subset for the following set.
Senaraikan subset yang mungkin bagi setiap set yang berikut.
- $\{m, n\}$
 - $\{10, 20, 30, 40\}$

a. $\emptyset, \{m\}, \{n\}, \{m, n\}$

b. $\emptyset, \{10\}, \{20\}, \{30\}, \{40\}, \{10, 20\}, \{10,$

$30\}, \{10, 40\}, \{20, 30\}, \{20, 40\}, \{30, 40\}, \{10, 20, 30\}, \{10, 20, 40\}, \{10, 30, 40\}, \{20, 30, 40\}, \{10, 20, 30, 40\}$

QUESTION 25

Represent the relationship between the following sets by using a Venn diagram. Wakilkan hubungan antara set-set yang berikut dengan gambar rajah Venn.

$$\xi = \{x : x \text{ is a whole number and } 10 < x < 20\}$$

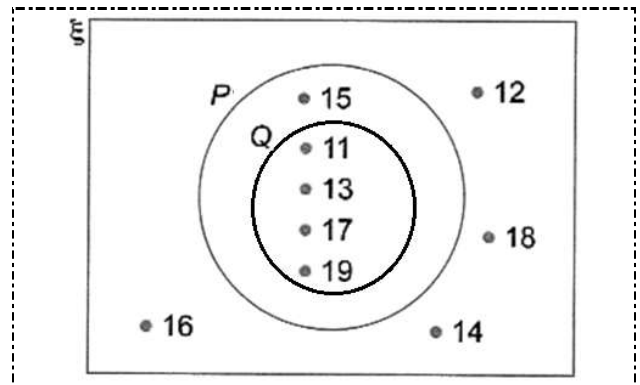
$$\{x : x \text{ ialah nombor bulat dan } 10 < x < 20\}$$

$$P = \{\text{odd numbers}\}$$

$$\{\text{nombor ganjil}\}$$

$$Q = \{\text{prime numbers}\}$$

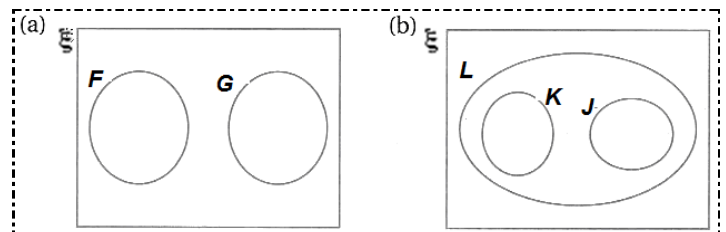
$$\{\text{nombor perdana}\}$$



26. Represent each of the following relationship by using a Venn diagram. Wakilkan setiap hubungan yang berikut dengan gambar rajah Venn diagram.

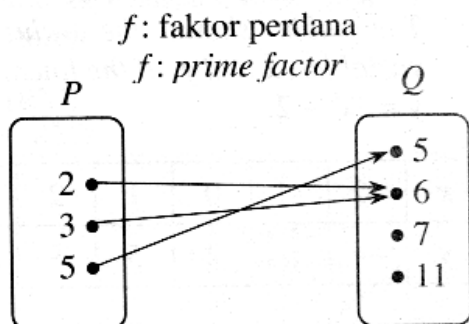
a. $F \subset \xi, G \subset \xi$ and $F \subset G'$

b. $K \subset L \subset \xi, J \subset L, J \subset K'$



QUESTION 27

Rajah anak panah di bawah menunjukkan fungsi f yang memetakan set P kepada set Q .
The arrow diagram shows the function f that maps set P to set Q .



- (a) Lengkapkan jadual di ruang jawapan dengan maklumat yang diberi.
Complete the table in the answer space using the information given.

Domain	Kodomain	Julat
<i>Domain</i>	<i>Codomain</i>	<i>Range</i>

[3 markah/3 mark]

Jawapan/Answer:

{2, 3, 5}	
{5, 6}	
{5, 6, 7, 11}	

(a)

{2, 3, 5}	Domain <i>Domain</i>
{5, 6}	Julat <i>Range</i>
{5, 6, 7, 11}	Kodomain <i>Codomain</i>

- (b) Tentukan objek bagi 6.

Determine the object(s) of 6.

[1 markah/1 mark]

(b) 2, 3

- (c) Tentukan imej bagi 5.

Determine the image of 5.

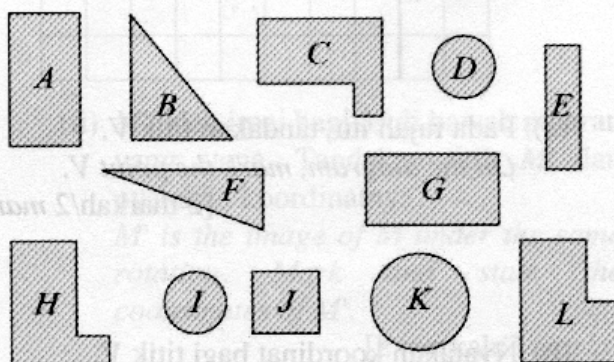
[1 markah/1 mark]

(c) 5

SASBADI GERAK GEMPUR T2 PG49 Q8

Rajah di bawah menunjukkan pelbagai jenis bentuk.

The diagram shows a variety of shapes.



Nyatakan bentuk yang kongruen dengan setiap bentuk yang berikut.

State the shape which is congruent to each of the following shapes.

[3 markah/3 marks]

Jawapan/Answer:

(a) Bentuk H
 Shape H

(b) Bentuk I
 Shape I

(c) Bentuk A
 Shape A

(a) C (b) D
 (c) G

QUESTION 28

Adam saves RM15 000 in a bank which offers interest rate 4% per annum. Calculate the matured value after 2 years if the interest is compounded

- (a) half yearly.
- (b) quarterly.

$$P = \text{RM}15\,000, r = \frac{4}{100} \text{ per annum, } t = 2 \text{ years}$$

- (a) half yearly: $n = 2$,

$$\begin{aligned} MV &= P\left(1 + \frac{r}{n}\right)^{nt} \\ &= 15\,000\left(1 + \frac{0.04}{2}\right)^{2(2)} \\ &= \text{RM}16\,236.48 \end{aligned}$$

- (b) quarterly: $n = 4$,

$$\begin{aligned} MV &= P\left(1 + \frac{r}{n}\right)^{nt} \\ &= 15\,000\left(1 + \frac{0.04}{4}\right)^{4(2)} \\ &= \text{RM}16\,242.85 \end{aligned}$$

Adam menyimpan wang sebanyak RM15 000 di bank yang memberikan kadar faedah 4% setahun. Hitung nilai matang selepas 2 tahun jika faedah dikompaun

- (a) setiap setengah tahun.
- (b) setiap suku tahun.

$$P = \text{RM}15\,000, r = \frac{4}{100} \text{ setahun, } t = 2 \text{ tahun}$$

- (a) setiap setengah tahun: $n = 2$,

$$\begin{aligned} MV &= P\left(1 + \frac{r}{n}\right)^{nt} \\ &= 15\,000\left(1 + \frac{0.04}{2}\right)^{2(2)} \\ &= \text{RM}16\,236.48 \end{aligned}$$

- (b) setiap suku tahun: $n = 4$,

$$\begin{aligned} MV &= P\left(1 + \frac{r}{n}\right)^{nt} \\ &= 15\,000\left(1 + \frac{0.04}{4}\right)^{4(2)} \\ &= \text{RM}16\,242.85 \end{aligned}$$

QUESTION 29

Siva utilised RM10 000 to buy unit trust A. After 1 year, he sold all the unit trust and received RM11 000. Within the period of holding the unit trust, he received dividend of RM200 twice. Calculate the value of investment returns obtained by Siva.

$$\text{Initial capital} = \text{RM10 000}$$

$$\begin{aligned} \text{Dividend} &= 2 \times \text{RM200} \\ &= \text{RM400} \end{aligned}$$

$$\begin{aligned} \text{Capital gains} &= \text{RM11 000} - \text{RM10 000} \\ &= \text{RM1 000} \end{aligned}$$

$$\begin{aligned} \text{Total returns} &= \text{RM400} + \text{RM1 000} \\ &= \text{RM1 400} \end{aligned}$$

$$\begin{aligned} \text{ROI} &= \frac{\text{Total return}}{\text{The value of the initial investment}} \times 100\% \\ &= \frac{\text{RM1 400}}{\text{RM10 000}} \times 100\% \\ &= 14\% \end{aligned}$$

Siva menggunakan RM10 000 untuk membeli unit amanah saham A. Selepas 1 tahun, dia menjual semua unit amanah saham itu dan mendapat RM11 000. Dalam tempoh dia memegang unit amanah saham itu, dia telah mendapat dividen RM200 sebanyak 2 kali. Hitung nilai pulangan pelaburan Siva.

$$\text{Modal awal} = \text{RM10 000}$$

$$\begin{aligned} \text{Dividen} &= 2 \times \text{RM200} \\ &= \text{RM400} \end{aligned}$$

$$\begin{aligned} \text{Keuntungan modal} &= \text{RM11 000} - \text{RM10 000} \\ &= \text{RM1 000} \end{aligned}$$

$$\begin{aligned} \text{Jumlah pulangan} &= \text{RM400} + \text{RM1 000} \\ &= \text{RM1 400} \end{aligned}$$

$$\begin{aligned} \text{ROI} &= \frac{\text{Jumlah pulangan}}{\text{Nilai pelaburan awal}} \times 100\% \\ &= \frac{\text{RM1 400}}{\text{RM10 000}} \times 100\% \\ &= 14\% \end{aligned}$$

QUESTION 30

- (a) (i) Sebuah beg mengandungi 5 biji guli berwarna merah dan 21 biji guli berwarna kuning. Satu guli dipilih secara rawak daripada beg itu. Hitung kebarangkalian,
A bag contains 5 red marbles and 21 yellow marbles. A marble is chosen at random from the bag. Calculate the probability that,
- memilih guli berwarna merah,
red marble is chosen,
 - memilih guli berwarna kuning.
yellow marble is chosen.

[2 markah/marks]

$$\begin{aligned} \text{(a) (i) (a) } P(\text{Guli merah}) / P(\text{Red marble}) &= \frac{5}{26} \\ \text{(b) } P(\text{Guli kuning}) / P(\text{Yellow marble}) &= \frac{21}{26} \end{aligned}$$

- (ii) Satu huruf dipilih secara rawak daripada perkataan 'MATEMATIK'. Hitung kebarangkalian untuk memilih,
A letter is selected at random from the word 'MATEMATIK'. Calculate the probability of selecting,
- huruf T / *the letter T,*
 - huruf vokal / *a vowel.*

[2 markah/marks]

(ii) $S = \{M, A, T, E, M, A, T, I, K\}$

(a) $A =$ Memilih huruf T / *Selecting the letter $T = \{T, T\}$*

$$P(A) = \frac{2}{9}$$

(b) $B =$ Memilih huruf vokal / *Selecting a vowel*
 $= \{A, E, A, I\}$

$$P(B) = \frac{4}{9}$$

(b) Sebuah kotak mengandungi 9 batang pen berwarna merah dan 13 batang pen berwarna biru. Fatimah memasukkan 4 batang pen berwarna merah dan 2 batang pen berwarna biru ke dalam kotak tersebut. Jika sebatang pen dipilih secara rawak daripada kotak itu, hitung kebarangkalian memilih pen berwarna merah.

A box contains 9 red pens and 13 blue pens. Fatimah puts another 4 red pens and 2 blue pens into the box. If a pen is chosen at random from the box, find the probability that a red pen is chosen.

[2 markah / marks]

(b) $n(S) = 9 + 13 + 4 + 2 = 28$

Katakan $A =$ Peristiwa memilih pen merah

Let $A =$ Event a red pen is chosen

$$n(A) = 9 + 4 = 13$$

$$P(A) = \frac{n(A)}{n(S)} = \frac{13}{28}$$

(c) Kotak A mengandungi sekeping kad sebutan pertama nombor perdana dan kotak B mengandungi empat keping kad, empat sebutan pertama gandaan 5. Sekeping kad diambil secara rawak dari kotak A dan kotak B . Senaraikan semua unsur dalam ruang sampel dan hitung kebarangkalian bagi peristiwa mendapat **KBAT** Menilai

Box A contains a number card with the first number of prime numbers and box B contains four number cards with the first four multiples of 5. A card is picked at random from box A and box B . List all the elements in sample space and calculate the probability of event getting

(i) sekurang-kurangnya satu nombor ganjil,
at least one odd number,

(ii) hasil tambah nombor melebihi 10.
the sum of number is more than 10.

(c) $S = \{(2, 5), (2, 10), (2, 15), (2, 20)\}$

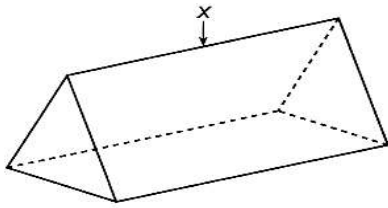
(i) $A = \{(2, 5), (2, 15)\}$

$$P(A) = \frac{2}{4} = \frac{1}{2}$$

(ii) $B = \{(2, 10), (2, 15), (2, 20)\}$

$$P(B) = \frac{3}{4}$$

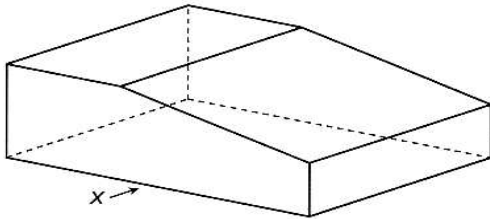
31. Rajah di bawah menunjukkan sebuah objek.
The diagram below shows an object.



Antara berikut, yang manakah pelan bagi objek itu, sebagaimana dilihat dari X?
Which of the following is the plan of the object, as viewed from X?

- A
- B
- C
- D

Rajah di bawah menunjukkan sebuah objek.
The diagram below shows an object.



32. Antara berikut, yang manakah dongakan depan bagi objek itu, sebagaimana dilihat dari X?
Which of the following is the front elevation of the object, as viewed from X?

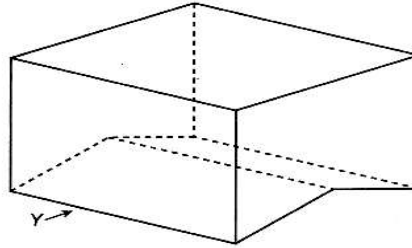
- A
- B
- C
- D

31. D

32. B

33. B

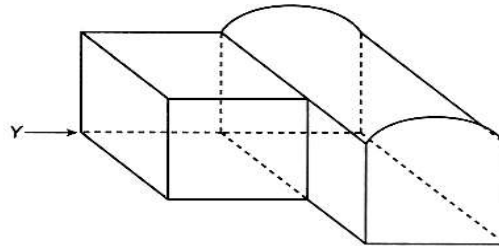
33. Rajah di bawah menunjukkan sebuah objek.
The diagram below shows an object.



Antara berikut, yang manakah dongakan depan bagi objek itu, sebagaimana dilihat dari Y?
Which of the following is the front elevation of the object, as viewed from Y?

- A
- B
- C
- D

Rajah di bawah menunjukkan sebuah objek gabungan.
The diagram below shows composite object.



34. Antara berikut yang manakah dongakan depan bagi objek itu, sebagaimana dilihat dari Y?
Which of the following is the front elevation of the object, as viewed from Y?

- A
- B
- C
- D

34. C