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Provincial Department of Education -NWP

පෙරහුරු පරීක්ෂණය - **2026**

Pre Test - 2026

Grade 11	**Mathematics I**	**Time: 2 hours**

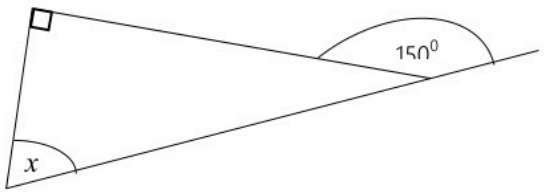
Name/Index no: -

- Answer **all** questions **on this question paper itself**.
- Marks are awarded in **Part A** carries 2 marks each answer and in **Part B** carries 10 marks for each answer .

Part A

1. A motorcycle travels at a uniform speed of $40kmh^{-1}$. Find the time taken for this motorcycle to travel a distance of 200 km in hours.

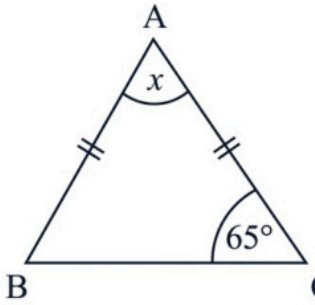
2. Based on the information given in the figure, find the value of x.



3. Simplify. $\frac{1}{3x} - \frac{1}{6x}$

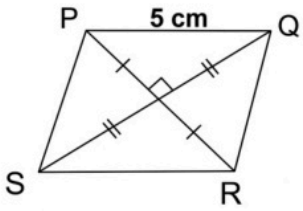
4. $5^3 = 125$. Write in logarithmic form

5. In triangle ABC, AB = AC. According to the given information, find the value of x.



Past Papers Wiki

6. Based on the given data in the figure, find the perimeter of PQRS with reasons.

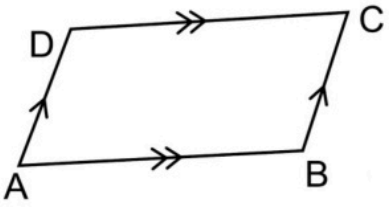


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7. One factor of $2x^2 + x - 1$ is $(x + 1)$. Find the other factor.

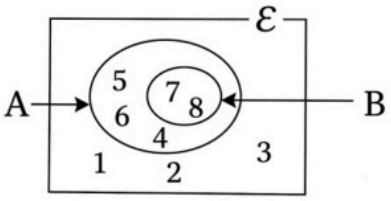
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8. In the parallelogram ABCD, $\hat{B} + \hat{D} = 220^0$. Find the value of $D\hat{A}B$.



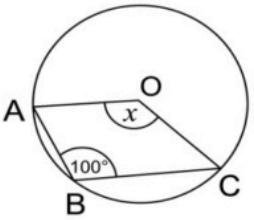
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9. According to the Venn diagram, what is the value of n(A) + n(B)?



---

10. In the given figure, A, B, C are three points on the circle with center O. Based on the given data, find the value of $\boldsymbol{x}$.



---

11. Simplify. $\frac{2x}{y} \times \frac{5x^2}{6x}$

---

12. It takes 6 men 2 days to complete $\frac{1}{2}$ of a work. If 8 men participated in this work, how many days will it take to complete the total work?

13. The six faces of a fair die are numbered 1, 2, 2, 3, 4, 5. When the die is rolled, find the probability of getting a prime number on the face turn upside.

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14. The marks obtained by 7 students who appeared for a test are given below. Find the mode and range of these marks.

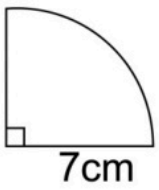
24,27,23,28,25,29,28

---

15. 9, 27, 81, ... Express the 10^{th} term of this number pattern as a power of 3.

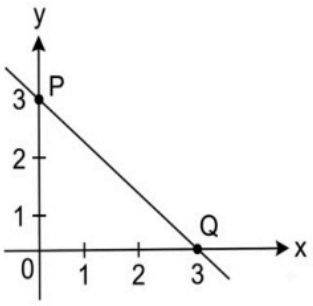
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16. Find the perimeter of the sector with radius 7 cm.



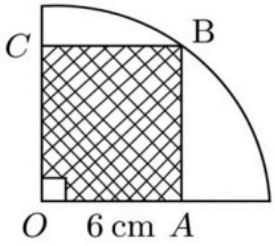
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17. Write the equation of the straight line PQ shown in the figure in the form $y = mx + c$.

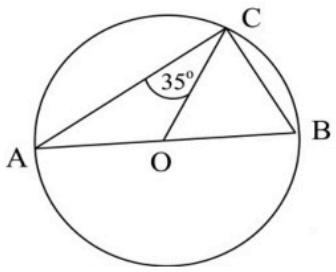


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18. The area of the rectangle OABC inside the sector shown in the figure is 48 cm². Find the radius of the circle.



19. AB is a diameter of the circle with center O.If $A\hat{C}O = 35^0$,find the value of $O\hat{B}C$.



---

20. Solve the following simultaneous equations to find the value of x + y.

$x - 2y = -3$

$4x + 7y = 18$

---

21. If the volume of a cylinder with a right height of 10 cm is 1540 cm³, find the radius of the base of the cylinder.

---

22. Customs duty of 18% is charged on a certain item. Find the value of an item worth Rs. 20 000.00 after paying the custom duty.

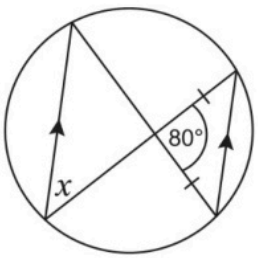
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23. Find the least common multiple (LCM) of the following algebraic terms

$9xy\ ,3x^2y\ ,12xy^2$

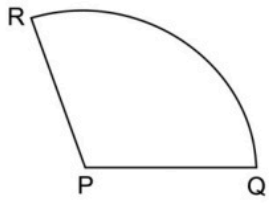
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24. Based on the given data in the figure, find the value of ***x***.



---

25. PQR is a sector. Using the knowledge of loci, mark point S on the arc QR such that it is equidistant from points P and Q.



Part B

01. From the money allocated for cultivation in a certain farm, $\frac{2}{5}$ was allocated for vegetables and $\frac{3}{8}$ was allocated for fruits. From the remaining $\frac{2}{3}$ is used for bee-keeping.

i) What fraction of the total money was spent on vegetable and fruit cultivation?

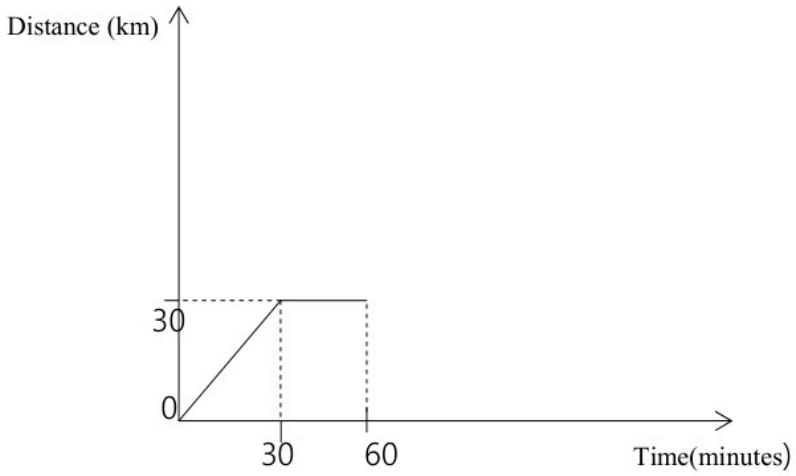
ii) What fraction of the total money was spent on bee-keeping?

iii) If the remaining Rs. 9000 was spent on flower cultivation, what was the total amount spent on cultivation on the farm?

iv) If $\frac{1}{3}$ of the money allocated for flower cultivation had to be spent on fruit cultivation, write the amount allocated for fruit cultivation as a percentage of the total amount.

---

02. The distance-time graph below shows how Sugath traveled from his home to the hospital to see a patient by a car.



i) What is the distance to the hospital from Sugath's house?

ii) Find the speed at which Sugath traveled to the hospital in kilometers per hour (kmh^{-1}).

iii) How much time did Sugath spend at the hospital?

iv) Then if Sugath returned home at a uniform speed of 90 kmh^{-1}, represent his return journey on the distance-time graph.

v) Find the average speed of the car for the whole journey in kilometers per hour (kmh^{-1}).

---

03. (a) Mr. Suranjith earns a monthly income of Rs. 250,000.00 from his businesses, and the Department of Inland Revenue levies income tax as follows;

Income(rupees)	**Tax rate**
Less than Rs. 1,800,000.00	Free / Exempt
For the next Rs. 1,000,000.00	6%
For the next Rs. 5,000,000.00	18%

i) What is the annual income Mr. Suranjith?

ii) Find the tax amount Mr. Suranjith has to pay for one year.

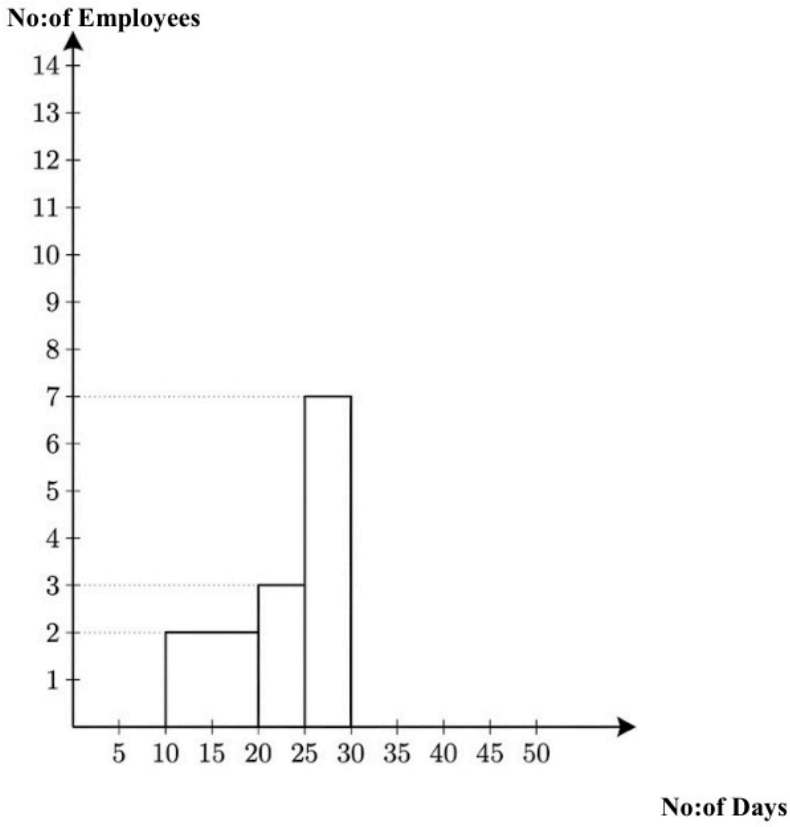
(b) According to the table above, Mr. Asela pays an annual income tax of Rs. 15,000.00.

i) For how much taxable income does he pay this tax?

ii) Calculate his total annual income.

04. An incomplete frequency distribution and an incomplete histogram showing the number of days 40 employees of a company attended work over two months are given below. (Here 10–20 means 10 or more but less than 20.)

Class intervals (No:of Days)	Frequency (No:of Employees)
10-20	4
10-25	.....
25-30	.....
30-35	12
35-45	.....
Total	40



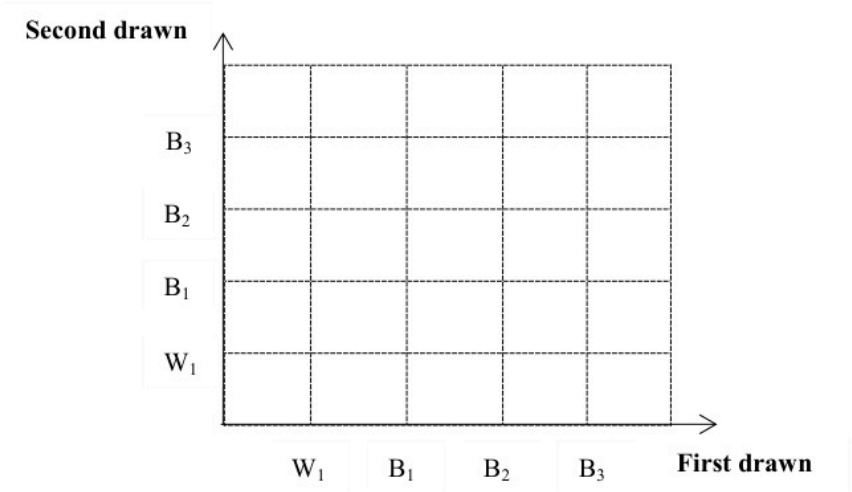
(i) Using the data provided in the frequency distribution and the histogram, fill in the blanks in the table and complete the histogram.

(ii) Express the number of employees who attended less than 30 days as a percentage of the total number of employees.

(iii) Draw the frequency polygon on the completed histogram.

05. (a) There are 4 buttons of the same size and shape in a box. One of them is white (W_1), and three are blue (B_1, B_2, B_3). A button is drawn at random from the box, its color is recorded, and it is replaced. Then another button is randomly drawn.

(i) Represent the sample space of possible outcomes on the given grid

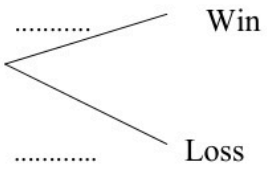


(ii) Encircle the event of drawing two buttons of different colors on the grid and find its probability.

(b) The probability of the Sri Lanka Women's Cricket Team winning a domestic tournament is $\frac{2}{3}$ and the probability of winning an international tournament is $\frac{2}{5}$.

i) The team plans to participate in a domestic tournament first. Complete the given tree diagram showing the relevant probabilities

Domestic tournament



ii) Extend the tree diagram to include the subsequent international tournament with relevant probabilities.

iii) Using the tree diagram, find the probability that the team wins at least one tournament.

PAST PAPERS WIKI

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Provincial Department of Education -NWP

පෙරහුරු පරීක්ෂණය - **2026**

Pre Test - 2026

Grade 11	**Mathematics II**	**Time: 3hours 10 minutes**

Name/Index No: -

- Answer **10** questions in total selecting **5** questions from **Part A** and **5** questions from **Part B**.
- Include ***relevant steps*** and ***correct units*** when answering questions.
- Each question carries 10 marks for the correct answer.

Part A

- *Answer 5 questions only.*

1.

A	**B**
Annual Compound Interest Rate is 10%	Market Price of a Share is Rs. 25 Annual Dividend per Share is Rs. 3

Above two advertisements are from two financial institutions **A** and **B.**

Ryan and Sayul invest Rs. 50,000.00 in Institutions A and B respectively at the beginning of a year. At the end of 2 years, Ryan withdraws the total amount along with the interest. After receiving dividends, Sayul sells all his shares at Rs. 27 per share at the end of 2 years. Which investment is more profitable? Explain with giving reasons.

2. The sum of the ages of a mother and her daughter is 42 years. 6 years ago, the mother's age was 5 times the age of her daughter at that time.

(i) Taking the mother's present age as x years and the daughter's present age as y years, construct a pair of simultaneous equations that using the above information.

(ii) By solving the pair of simultaneous equations, find the present ages of the mother and the daughter separately.

(iii) In how many more years will the mother's age be twice the age of her daughter?

3. Information collected by a milk collection center regarding the quantity of milk collected from 50 farmers on a particular day is shown below. (The 10-14 class interval includes quantities equal to or greater than 10 liters and less than 14 liters).

Milk (Liters)	10-14	14-18	18-22	22-26	26-30	30-34	34-38
Number of famers	6	10	08	12	06	05	03

Based on the above information;

I. Find the modal class.

II. Taking the mid-value of the modal class as the assumed mean, or using any other method, find the mean quantity of milk brought by a farmer to the nearest liter.

III. If every farmer brought the maximum possible quantity of milk (to the nearest liter) within their respective class interval, how many containers equal to the mean quantity of milk would be required to hold the milk collected on that day?

4. An incomplete table of y values corresponding to several x values of the quadratic function $y = -x^2 + 6x - 5$ is given below.

x	0	1	2	3	4	5	6
y	-5	0	3	.....	3	0	-5

I. Find the value of y when $x = 3$.

II. Using a standard system of axes and a suitable scale, draw the graph of the given quadratic function on a graph paper according to the above table.

III. Using the graph,

(a) Write down the coordinates of the turning point, and express the quadratic function in the form of $y = b - (x + a)^2$.

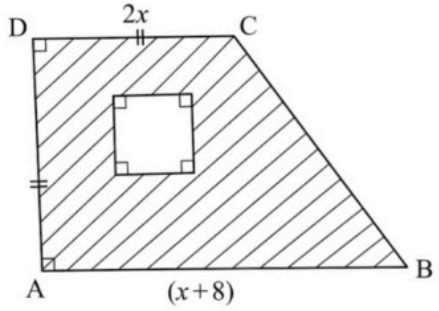
(b) Find the roots of the equation $x^2 - 6x + 5 = 0$.

(c) Find the range of values of x for which the function is positive and increasing.

5. Twelve solid metallic spheres, each of radius ***a***, are melted down and construct a solid hemisphere of radius ***r*** without any wastage of metal.

Show that, $r = 2 \times \sqrt[3]{3}a$ and when $a = 4.85cm$,use logarithmic tables to find the value of r to the nearest whole number, and show that $3a > r$.

6. The figure shows a trapezium-shaped metal sheet $ABCD$.Where $AD = DC = 2x$ and $AB = (x + 8)$. A square with a side length ***x*** is removed from this sheet as shown in the below figure.



I. Find the area of the trapezium sheet ABCD in terms of x before the square section is removed.

II. After removing the square portion, the remaining area of the sheet is 28 square units. Show that x satisfies the equation $x^2 + 4x - 14 = 0$.

III. Taking $\sqrt{2} = 1.41$,solve the above equation to find the value of x to the nearest first decimal place.

IV. Find the area of the square portion that was removed.

Part B

- *Answer 5 questions only.*

---

7. A businessman, who is selling dolls sold 35 dolls on the first day and then he sold 3 more dolls each day than the previous day.

   I. Write down the number of dolls sold during the first three days in order.

   II. Find the number of dolls sold on the 12^{th} day.

   III. What was the first day that the number of dolls sold per day exceeded 95?

   IV. If each doll is sold for Rs. 40.00, find the total income earned by the shop owner from selling dolls during the first 30 days.

8. Use only a straight edge with cm/mm scale and a pair of compasses for the following constructions. Show the construction lines clearly.

   I. Construct triangle ABC such that $AB = 8\ cm$, $AC = 5\ cm$, and $BC = 7.5\ cm$.

   II. Construct a straight line passing through C parallel to AB.

   III. Construct the perpendicular bisector of AB and mark the point where it meets the parallel line constructed above as D.

   IV. Extend the line CD to E and show that $B\hat{D}E = B\hat{A}D$.

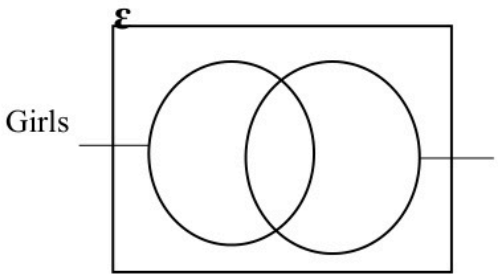
9. A communication tower is situated on horizontal ground at a distance of 20 m from the foot of a building with the height of 6m. An observer at the top of the building observes the top of the communication tower at an angle of elevation of 70° 20'.

   I. Represent the above information in a rough sketch, and using trigonometric tables, find the height of the communication tower to the nearest whole number.

   II. Find the angle of elevation of the top of the communication tower when observed from the foot of the building.

10. A group of 60 students from a mixed school participated in an educational trip. On the way, they bought ice creams. The total number of students who bought ice cream was 40, of which $\frac{3}{4}$ are boys. The number of boys who did not buy ice cream was half the number of girls who bought ice cream.

I. Complete the Venn diagram given below using the above information.



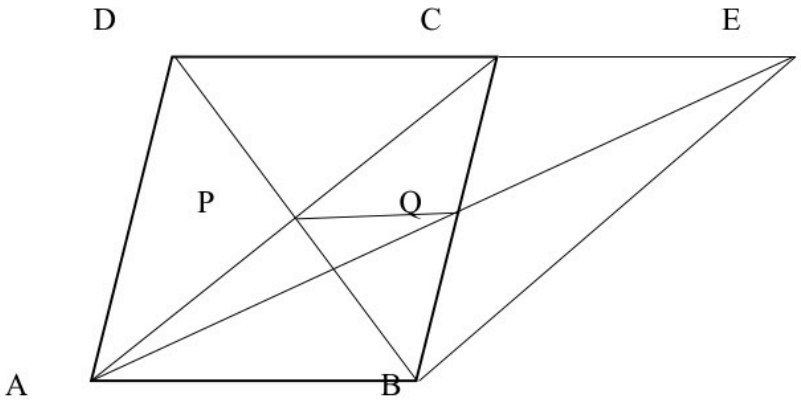
……..

II. How many girls did not buy ice cream?

III. Express the total number of girls who participated in the tour as a percentage of the total number of students.

11. ABCD is a parallelogram. A straight line drawn through B parallel to AC meets DC produced at E. The diagonals AC and BD intersect at P, and lines AE and BC intersect at Q.

Prove that $\text{PQ} = \frac{1}{4}DE$.

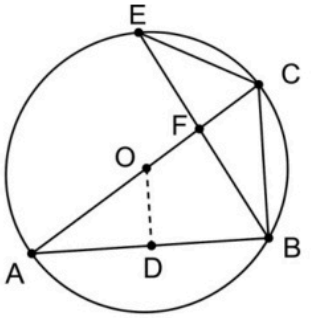


12. In the circle with center O, D is the midpoint of the chord AB. And EC = CB.

I. Copy the diagram into your answer sheet and mark the relevant given data

II. Show that , OD // BC.

III. Show that $CF \perp BE$.(Hint: Take $B\hat{A}C = x$.)



අ.පෙ.ස (සා.පෙ) සහභාගිත්ව විභාගය I
ගණිතය I
විභාග පත්‍රය

A කොටස

1	අගය 5		2
2	30° හෝ 150°-90° $x = 60°$	1 1	2
3	$\frac{2}{6x}$ හෝ ඉ.සා.ගු $\frac{1}{6x}$	1 1	2
4	$\log_5 125 = 3$		2
5	$\hat{B} = 65°$ $x = 50°$	1 1	2
6	20 cm විෂ්කම්භය සමච්ඡේදීව කොටස්වල මැන්නේ කේන්ද්‍රයෙන් බව	1 1	2
7	$(2x-1)(x+1)$ $\therefore 2x-1$	1 1	2
8	$\hat{B} = \hat{D} = 110°$ හෝ 360°-220° $D\hat{A}B = 70°$	1 1	2
9	$n(A) = 5$ හෝ $n(B) = 2$ $n(A) + n(B) = 7$	1 1	2
10	ප්‍රතිඵල $A\hat{O}C = 200°$ $x = 160°$	1 1	2
11	$\frac{5y}{3}$		2
12	මිනිම දිග 24 ලකුණ්ම දිග 3	1 1	2
13	4/6		2
14	මාතය 28 පරාසය 29-23 = 6	1 1	2
15	9×3^9 3^{11}	1 1	2
16	$2 \times \frac{22}{7} \times 7 \times \frac{1}{4} = 11$ පරිධිය = 25 cm	1 1	2
17	$m = -1$ හෝ $c = 3$ ආදේශය $y = -x + 3$	1 1	2
18	$OC = AB = 8$ cm අරය = 10 cm (ප්‍රතිඵල පමණි)	1 1	2
19	$O\hat{B}C = 55°$ ($A\hat{C}B = 90°$ හෝ $C\hat{O}B = 70°$ ආදේශය සහිත)	1 1	2
20	$5x + 5y = 15$ $x + y = 3$	1 1	2
21	$\frac{22}{7} \times r^2 \times 10 = 1540$ $r = 7$ cm	1 1	2
22	රු 3600 ලබා ගැනීම රු 23600	1 1	2
23	$36x^2y^2$		2
24	වෘත්තය මත හෝ x ලැබෙන ආදේශ කිරීම $x = 50°$	1 1	2
25	PQ ඒ ලම්බ සමච්ඡේදනය කිරීම S ලඟදී හරියට	1 1	2

B කොටස

1	I	$\frac{2}{5} + \frac{3}{8} = \frac{31}{40}$	1+1	2	
	II	$\frac{40}{40} - \frac{31}{40} = \frac{9}{40}$	1		
		$\frac{9}{40} \times \frac{2}{3} = \frac{3}{20}$	1	2	
	III	$\frac{9}{40} - \frac{6}{40} = \frac{3}{40}$	1		
		$\therefore$ මුළුලාභය $= \frac{9000}{3} \times 40$	1		
		$=$ රු 120000	1	3	
	IV	වලුකුණු වෙහෙර $= 9000 \times \frac{1}{3}$ $=$ රු 3000	1		
		$120000 \times \frac{3}{8} =$ රු 45000	1		
		$\therefore$ මුළුලාභය $=$ රු 48000			
		$\frac{48000}{120000} \times 100\%$ $= 40\%$	1	3	
		හෝ වෙනත් නිවැරදි ලඟදී ක්‍රමයක්			10

ubia V80 Design

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	I	30 km		1
	II	වේගය = $\frac{30}{30/60}$	1	
		$= 60\ km\ h^{-1}$	1	2
	III	විනාඩි 30		1
	IV	දාවනු ඇතිසේ ගනුමු		
		කාලය = $\frac{30}{90} = \frac{1}{3}\ h$ = 20 min	2	
		විනාඩි 80 දී යන දුර 60 km	1	
		හෙවත් ගැසීම		
		නිවැරදි සඳහනක්	1	4
	V	$\frac{60\ km}{80\ min} = \frac{60}{80} \times 60$	1	
		$= 45\ km\ h^{-1}$	1	2
				10
3	(a) (i)	$250\,000 \times 12$	1	
		$= රු\ 3000000$	1	2
	(ii)	$1000000 \times \frac{6}{100} = රු\ 60000$	1	
		$1200\,000 \times \frac{18}{100} = රු\ 36000$	1+1	
		ලබා ඇති මුළු = රු 96000	2	5
	(b) (i)	$15000 \times \frac{100}{6}$	1	
		රු 250000	1	2
	(ii)	1800000 + 250000		
		$= රු\ 2\,050\,000$	1	1
				10
4	(i)	සංඛ්‍යා රටාවකි		
		3, 7, 14 ලබා ගැනීම	3	
		වල්ලු රටාවක සම්පූර්ණ කිරීම	2	5
	(ii)	14 ලබා ගැනීම	1	
		$\frac{14}{40} \times 100\%$ = 35%		2
	(iii)	මූල්‍ය ලාභය ලබාගැනීම	1	
		• මූලධන පරිහරණ වල්ලු		
		වර්ෂ ලාභය ලබා ගැනීම	1	
		• ඉතිරි වර්ෂ ලාභය සඳහන්	1	3
				10

5	(a) (i)	කොළඹ සහ මුදල්		
		සම්පූර්ණ කිරීම		2
	(ii)	වෙනස දැක්වීම	1	
		6/16	1	2
	(b) (i)	2/3 හා 1/3 කොළඹ		
		ලබා ගැනීම		1
	(ii)	විශේෂිය තරග නම්කිරීම	1	
		රූප සටහන සම්පූර්ණ		
		කිරීම	2	3
	(iii)	12/15 ලබා ගැනීම		2
				10

II පත්‍රය

ගණිතය - විද්‍යුත් පත්‍රය

1

රවන්

$50000 \times \frac{110}{100} \times \frac{110}{100}$ . . 2

$= ₹\ 60500$ 1

(හෝ සෘජු ක්‍රමයෙන්)

සාමුල්

නෙවම ගණ = 2000 1

ලාභාංශ මුදාවරි

$= 2000 \times 3 \times 2$ 1

$= ₹\ 12000$ 1

ප්‍රාථමික ලාභය

₹ 4000 ලැබුණි 1

නෙවම ආයෝජන

₹ 54000 1

ලවලාල = ₹ 66000 1

$66000 > 60500$

සාමුල් ඉවසිලිවන්ත වූවා 1 10

2 I

$x + y = 42$ 1

$x - 6 = 5(y - 6)$ 1 2

II

මූලාංශයේ ඉවත්කිරීම 1

ආදේශයේ 1

$x = 31$ 1

$y = 11$ 1

මාසික වැඩ = කුලී 31 ට

නිවසිලිවන වැඩ = කුලී 11 ට 1 5

III

සම වැඩ ඒ ගණන් වූ

$31 + n = 2(11 + n)$

තෝ

සූත්‍රය නිවැරදිකරගෙන් 2

වැඩ 9 1 3

10

3 I

22-26 1

II

මධ්‍ය හුරු සිරස 1

fd සිරස් 1

Σfd සඳහා 1

මධ්‍යන්‍යය $= A + \frac{\Sigma fd}{\Sigma f}$

සඳහා හුරු ආදේශය 1

22.32 ලබා ගැනීම 1

නිවැරදි 22 සඳහා 1 6

III

1166 ලබා ගැනීම 1

සම්මතාන්තරය 1

53 1 3

10

4 I

4 1

II

චතුරස්‍රය හැඩය 1

අවශ්‍ය ලක්ෂ්‍ය 5 ලකුණ් 1

සුමට වක්‍රය 1 3

III(a)

(3,4) 1

$y = 4 - (x-3)^2$ 1

(b) $x = 1$ සහ $x = 5$ 2

(c) $1 < x < 3$ 2 6

10

5

$\frac{4}{3}\pi a^3 \times 12 = \frac{1}{2} \times \frac{4}{3}\pi r^3$ 2

$24a^3 = r^3$ 1

$r = \sqrt[3]{24a^3}$ 1

$\lg r = \lg 2 + \frac{1}{3}\lg 3 + \lg 4.85$ 1

$= 0.3010 + \frac{1}{3} \times 0.4771 + 0.6857$

(නිවැරදි ලබාගැනීම 2) 2

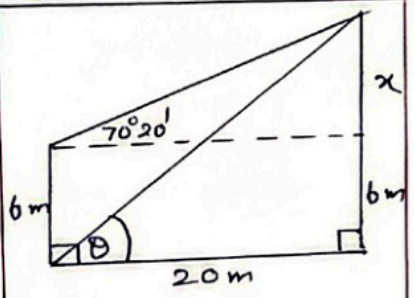
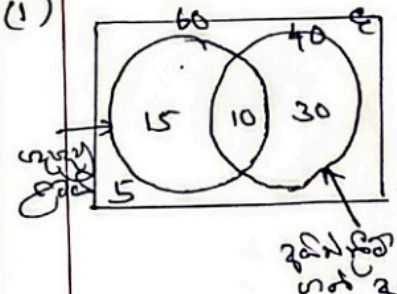
$= 1.1457$ 1

$r = 14$ cm 1

$14.55 > 14$ 1 10

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	(i)	$x(3x+8)$		1
	(ii)	$x(3x+8)-x^2=28$	1	
		$2x^2+8x-28=0$	1	2
	(iii)	$(x+2)^2=18$ ලෙස ලිවීම	1	
		$x+2=\pm 3\sqrt{2}$	1	
		$x=2.23$ හෝ $x=-6.23$	1+1	
		සිදුවිය හැක්කේ එක පිළිතුරක් පමණි	1	
		$x=2.2$ බව	1	6
	(iv)	වර්ග මීටර 4.84		1
				10
7	(i)	35, 38, 41		1
	(ii)	$T_{12}=35+(12-1)3$	1	
		$=68$	1	2
	(iii)	$35+(n-1)3 \geq 95$	1	
		$n \geq 21$	1	
		$\therefore$ 22 වන දිනය	1	3
	(iv)	$S_{30}=\frac{30}{2}\{2\times35+(30-1)3\}$	1	
		$S_{30}=2355$	1	
		2355×40	1	
		රු 94200	1	4
				10
8	(i)	ත්‍රිකෝණය නිවැරදිව		3
	(ii)	කවාංගද රේඛා නිවැරදිව		2
	(iii)	ලම්බ සමච්ඡේදක නිවැරදිව	1	
		D ලක්ෂ්‍යය ලබා ගැනීම	1	2
	(iv)	$B\hat{A}D=A\hat{B}D$ $(AB=BD)$	2	
		$B\hat{D}E=A\hat{B}D$ (එකාන්තර $\angle$)	1	3
		$\therefore B\hat{A}D=B\hat{D}E$		
				10

9	(i)	~~20 m හා 6 m ලබා ගැනීම~~	+	
		~~සමීපතම බව ලබා ගැනීම~~	1	
		~~$70^\circ 20'$ ලබා ගැනීම~~	+	
		~~සුදුසු සූත්‍රයක්~~		
		~~$\tan 70^\circ 20' =$~~		
9	(i)			
		සූත්‍රයේ		
		20 m හා 6 m හඳුනාගැනීම	1	
		සමීපතම බව හඳුනාගැනීම	1	
		$70^\circ 20'$ ලබා ගැනීම	1	
		$\tan 70^\circ 20' = \frac{x}{20}$	1	
		$2.798 = \frac{x}{20}$	1	
		$x = 56$ m	1	
		භූමියේ උස 62 m	1	7
	(ii)	$\tan\theta = \frac{62}{20}$	1	
		$=3.1000$	1	
		$\theta = 7^\circ 33'$	1	3
				10
10	(i)			
		ගැටලුව ලිවීම		
		භූමිසන්නිවේදන ගත් මුල		
		වෙන් රූප සටහන ඇඳීම	1	
		60, 40 ලබා ගැනීම	2	
		$40\times\frac{3}{4}=30$ ලබාගැනීම හෝ වෙන් රූපයේ දැක්වීම	1	
		10 ලබා ගැනීම	1	
		$\frac{10}{2}=5$ ලබාගැනීම හෝ වෙන් රූපයේ ලබා ගැනීම	1	6

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(ii) 15 — 2

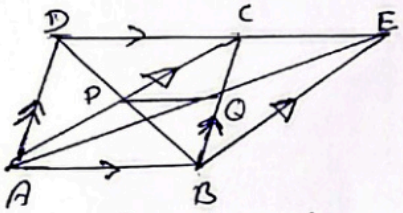
(iii) $\frac{25}{60} \times 100\%$ — 1

66.66%, හෝ 66.67 % — 1 — 2 — 10

(i)

(ii)

11



රූප සටහන් නිවැරදි ලෙස ඇඳීම — 1

AB // DC (දී ඇත) — 1

AB // CE — 1

AC // BE (දී ඇත) — 1

∴ ABEC සමාන්තරාස්‍රයකි (සම්මුඛ පැති සමාන්තර වීමේ ලක්ෂණය) — 1

CQ = QB (විකර්ණ සමච්ඡේදනය වේ) — 1

AP = PC (විකර්ණ සමච්ඡේදනය වේ) — 1

∴ $PQ = \frac{1}{2} AB$ (මධ්‍ය ලක්ෂ්‍ය ප්‍රමේයය) —(1) — 1

AB = CD (සම්මුඛ පැති සමාන වේ) — 1

AB = CE — 1

$2AB = CD + CE$ — 1

$2AB = DE$

$AB = \frac{DE}{2}$

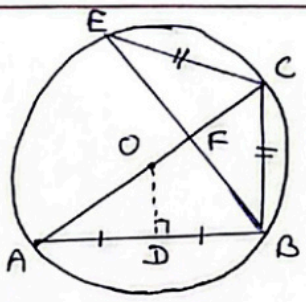
∴ (1) හි $PQ = \frac{1}{2} AB$

$PQ = \frac{1}{2} \times \frac{DE}{2}$ — 1

$PQ = \frac{1}{4} DE$

10

12



I — රූප සටහන් නිවැරදි ලෙස ඇඳීම — 1

II — AD = DB (දී ඇත)

∴ $O\hat{D}B = 90°$ (ප්‍රමාණ සමය සම්මුඛ කෝණ සම්පාත රේඛාවක් මගින් සාදනු ලබන කෝණ) — 1 — 1

AC සම්පාතනය

∴ $A\hat{B}C = 90°$ (වෘත්ත කේන්ද්‍රය හරහා යන ජ්‍යාය) — 1

∴ OD // BC (අනුරූප ∠) — 1

[හෝ දැන්නුම්කරණ] — 4

III — $B\hat{A}C = x$ ලෙස ගනිමු.

∴ $B\hat{E}C = x$ (සමද්විපාද ∆) — 1

$E\hat{B}C = x$ (CE = EB නි) — 1

$F\hat{C}B = 90 - x$ (∆ කෝණ සම්පාදනය) — 1

FBC ∆ සඳහා

$B\hat{F}C = 180 - (F\hat{C}B + E\hat{B}C)$

$= 180 - (90 - x + x)$ — 1

$= 180 - 90$

$= 90°$ — 1 — 5

∴ CF ⊥ EB වේ

10

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Provincial Department of Education - NWP	32	E	I

General Certificate of Education (O/L) Examination – 2026

Mathematics I	**Rehearse Test Paper - 02**	***Two hours***

Index Number :……..

Certified correct

…….

Signature of Invigilator

Important:

- This question paper consists of **9** pages
- Write your **Index Number** correctly in the appropriate places on **this paper** and on **page three**
- Answer **all** questions **on this question paper itself**
- Use the space provided under each question for working and writing the answer
- Indicate the **relevant steps** and **correct units** when answering the questions
- Marks are awarded as follows.

  In part A

  2 marks for each question

  In part B

  10 marks for each question
- Blank papers can be obtained for scratch work

For Marking Examiners' Use Only

Part	Question Number	Marks
A	1 – 25	
B	1	
	2	
	3	
	4	
	5	
Total		

…….. ……

First Examiner Code Number

…….. ……

Second Examiner Code Number

…….. ……

Arithmetic Checker Code Number

…….. ……

Chief Examiner Code Number

Part A

Answer all questions ***on this question paper itself***

(Take the value of π as $\frac{22}{7}$*)*

---

(01). Underline the correct answer

The value of $\sqrt{2}+\sqrt{8}$ is

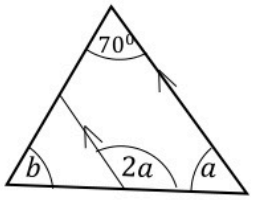
(i). less than 4 (ii). equal to 4 (iii). Greater than 4

---

(02). Simplify $\frac{ab}{3} \div \frac{ab^2}{6}$

---

(03). According to the information given in the diagram
Find the values of a and b



---

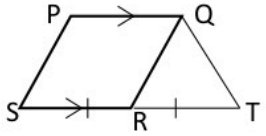
(04). It is estimated that 6 men need 8 days to complete a certain task. If 3 more men joined this group after they had worked for 2 days, in how many more days can that task be completed?

---

(05). Find the least common multiple of $4x^2, 3xy^2$

---

(06). In the given figure, what fraction of the area of trapezium PQTS is the area of triangle QRT?



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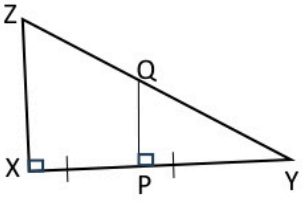
(07). Factorize $2x^2 - 5x - 3$

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(08). P is the midpoint of the side XY in the triangle XYZ.

(i). If the length of the side ZX is 12cm, find the length of QP

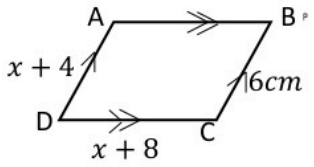
(ii). Name an angle equal to $P\hat{Q}Y$



(09). Write down all the positive integers which satisfy the inequality $3x - 1 \leq 5$

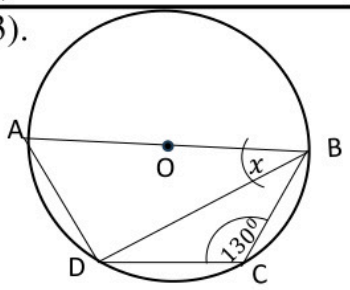
(10). If $log_2 x = 6$, write the value of x as a power of 2

(11). ABCD is a parallelogram. Find the length of AB



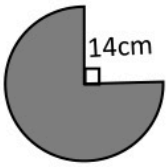
(12). When ε = {Integers between 1 and 10}
A = {Composite numbers between 1 and 10}
B = {Triangular numbers between 1 and 10}
Mark the correct statements with a ✔
(i). $n(A \cup B) = 5$ ( )
(ii). $A \cap B = \{6\}$ ( )
(iii). $A \cup B = \varepsilon$ ( )

(13).



AB is a diameter of the circle given in the diagram. According the information given, find the value of x

(14). The radius of the shaded sector is 14cm. Find its perimeter



(15). The table below shows the information about a bicycle which travels at a uniform speed

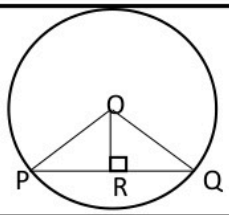
Distance(km)	0	5	10	15	20	25	30
Time (h)	0	$\frac{1}{2}$	1	$1\frac{1}{2}$	2	$2\frac{1}{2}$	3

(i). Find the speed of the bicycle in kilometres per hour

(ii). Find the time taken by the bicycle to travel 50km at this speed

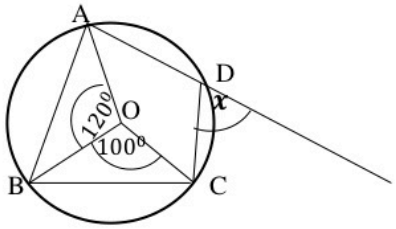
(16). The centre of the circle given in the figure is O.

PQ =16cm, OR = 8cm. Find the value of $P\hat{O}Q$

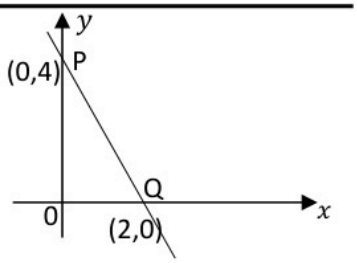


(17). Find the 6th term of the geometric progression 81, 27, 9, ……

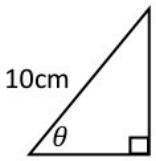
(18). According to the information given in the circle with centre O, find the value of x



(19). Write down the equation of the straight line which passes through the points P and Q, given in the figure



(20). If $Sin\theta = 0.8$, find the value of $Cos\theta$



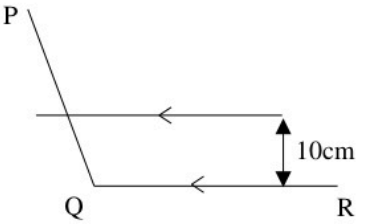
(21). The 1st quartile of a data distribution which is arranged in ascending order is the 3rd place data. Find the place of the 3rd quartile of this data distribution

(22). The curved surface area of a right circular cylinder of the base diameter 28cm is 2200cm^2. Find the height of the cylinder

(23). A and B are two matrices. $A = (2 \quad -1)$ and $B = \begin{pmatrix} 3 & 2 \\ 1 & -1 \end{pmatrix}$, Find the matrix AB

(24). A and B are two mutually exclusive events. $P(A) = P(B) = \frac{1}{7}$. Find $P\left[(A \cup B)^{/}\right]$

(25). The diagram shows two boundaries of a land PQ and QR. A post is to be fixed such that it is at a distance of 10m from at least one of the two boundaries and at a distance of 12m from the corner Q. An incomplete rough sketch of a construction done to find the location of the post is shown in the figure. Using your knowledge of loci, complete the rough sketch and clearly show those locations



Part B

Answer all questions ***on this question paper itself***

(Take the value of π as $\frac{22}{7}$)

(01). Janith bought a stock of water melon. $\frac{1}{9}$ of that stock was damaged. $\frac{1}{8}$ of the undamaged stock are small fruits. The remaining portion of undamaged, large watermelon fruits were sold.

(i). What fraction of the total stock was undamaged?

(ii). What fraction of the total stock was sold?

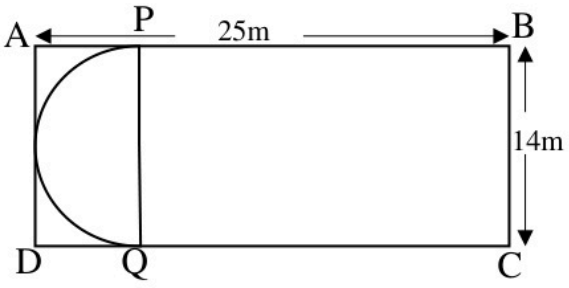
(iii). If there were 1800 fruits in the purchased stock, and Janith sold each undamaged large fruit for Rs.150, find the total amount of money he received

(iv). If the money received from selling the watermelon was 25% higher than the price at which the stock was purchased, find the cost price of the watermelon stock

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(02). The diagram shows a rectangular block of land ABCD of length 25m and breadth 14m. A semi-circular portion on one side of it is separated and turfed

(i). Find the area of the portion PQCD



(ii). Find the area of the semi-circular portion separated for turfing

(iii). Find the perimeter of the semi-circular portion where turf is laid

(iv). A right-angled triangular plot of land having an area equal to the area of the semi-circular portion needs to be added externally such that DQ is one of its boundaries. Draw a rough sketch of this plot with measurements on the figure above

---

(03).Pasidu rents out a shop for a monthly rent of Rs. 10000 and collects the total money upfront for the whole year. The annual value of the shop is Rs.15000 and the annual rate percentage charged for it is 12%.

(i). Find the annual rates to be paid for the shop

(ii). 6% of the money collected by renting out the shop is spent on building a boundary wall. Find the remaining amount of money after paying the rates and spending for the boundary wall

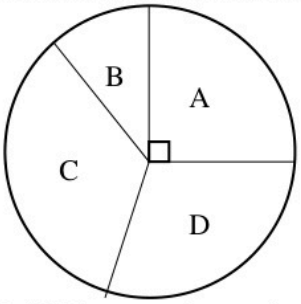
(iii).

-Wasana Company –

- Market price of a share is Rs.50
- Pays an annual dividend of Rs.2 per share

Pasidu invests the entire remaining balance amount to buy shares in the above company. At the end of the year, after receiving the dividends from the company, he sells all the shares at the price of Rs.60 per share. Find the total amount of money he received by selling the shares

(04). Out of a group of students who sat for mathematics test, the number of students who scored marks within the intervals 10 – 20, 20 – 30 ,30 – 40, and 40 – 60 are represented respectively by the sectors A, B, C and D of the given pie chart. The maximum mark that can be obtained in the test is 60



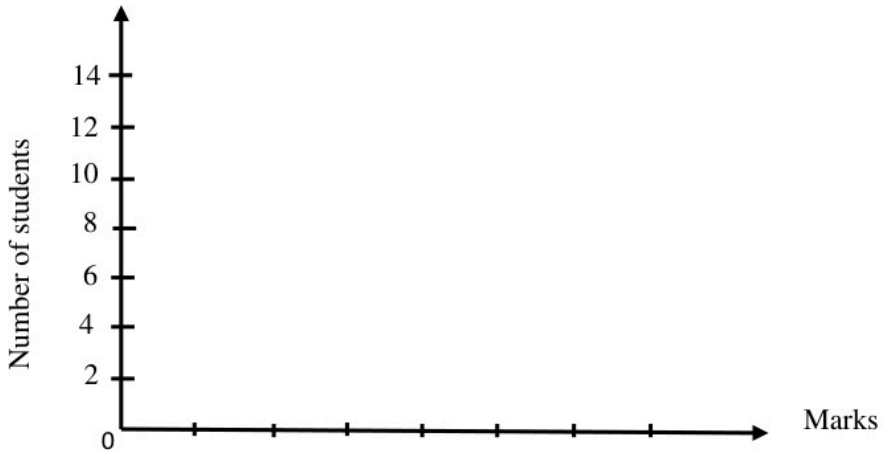
(i). In which class interval did the least number of Students score marks?

(ii). If the number of students represented by A is 10, find the total number of students

(iii). If the number of students represented by D is 12, what is the magnitude of the angle of that sector?

(iv). (a). The angle representing the least number of students is 45^0. Based on the above information, fill in the blanks in the table given below, and draw a suitable histogram on the given axes to represent the number of students who scored marks within each interval

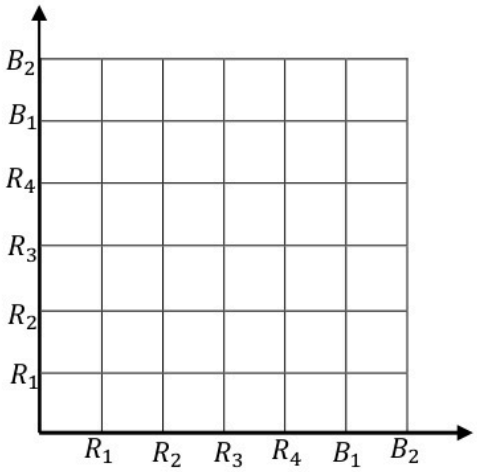
Class intervals	Number of students
10 – 20	……..
20 – 30	……..
30 – 40	……..
40 – 60	……..



b). By using the histogram, draw the frequency polygon

(05). A bag contains 4 red bangles and 2 blue bangles which are identical. Samadhi randomly takes a bangle out from the bag and without putting it back into the bag randomly takes out another bangle from it. If both bangles taken out are of the same colour she wears them. Otherwise, she doesn't wear any bangles.

(i). Represent the relevant sample space on the grid provided below. ('R' represents Red and 'B' represents Blue)

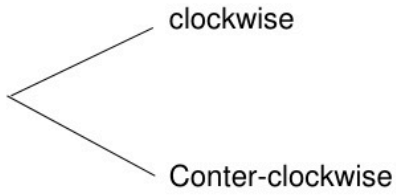


(ii). Encircle the event of Samadhi not wearing bangles on the grid and find its probability

(b). A gear inside a machine initially rotates either clockwise or counter-clockwise with equal probability. An incomplete tree diagram drawn to show the direction of rotation at that instance is shown below. Mark the relevant probabilities on it

second rotation

Initial rotation



(ii). The gear, having stopped for a moment, starts to rotate again either clockwise or counter-clockwise according to the following probabilities

If the initial rotation is clockwise, the probability of it rotating in the same direction on the second instance is $\frac{3}{5}$. If the initial rotation is counter-clockwise, the probability of it rotating in the same direction on the second instance is $\frac{1}{4}$. Extend the tree diagram and mark the probabilities corresponding to the second rotation

(iii). Find the probability that the wheel rotates in the same direction on both occasions.

Provincial Department of Education - NWP	32	E	II

General Certificate of Education (O/L) Examination – 2026

Mathematics II	Rehearse Test Paper - 02	*Three hours*

Additional reading Time – 10 minutes

Use **additional reading time** to go through the question paper, select the questions and decide on the questions that you give priority in answering

Important:

- *Answer **ten** questions selecting **five questions** from* **Part A** *and five questions from* **Part B**.
- *Write the **relevant steps** and the **correct units** in answering the questions.*
- *Each question carries* **10** *marks*
- *The volume of a cylinder of radius* $\boldsymbol{r}$ *and the height* $\boldsymbol{h}$ *is* $\boldsymbol{\pi r^2 h}$
- *The volume of a cone of radius* $\boldsymbol{r}$ *and height* $\boldsymbol{h}$ *is* $\boldsymbol{\frac{1}{3}\pi r^2 h}$

Part A

*Answer **five** questions only*

(01). The information about a financial institution and 'Sahana' shop located in the town is given below

The financial institution	'Sahana' shop
• A 10% annual compound interest is paid for fixed deposits	• A part of the value can be paid as down payment, and the balance can be paid in installments. Interest is calculated on reducing balance

(i). Mr. Sumedha deposited Rs.100000 in the financial institute which pays 10% annual compound interest. After two years he withdraws the money along with the interest. Find the total amount of money he received at the end of the 2 years

(ii). He spent Rs.71000 from the total money received from the financial institution on another purpose. The remaining amount is used as a down payment to purchase a computer worth Rs.200000 from 'Sahana' shop. The computer is bought under an agreement to pay the remaining amount in monthly installments on reducing balance. If the total interest paid for the computer is Rs.11250 less than the total interest he received from the financial institution, find the annual interest rate charged by the 'Sahana' shop.

(01). An incomplete table prepared to draw the graph of the function $y = x^2 - 2x - 2$, in the range $-2 \leq x \leq 4$ is given below

x	-2	-1	0	1	2	3	4
y	6	1	-2	....	-2	1	6

(a). (i). Find the value of y, when $x = 1$

(ii). Draw the graph of the above function by using the standard system of axes and a suitable scale

(b). Using the graph answer the following questions

(i). Write the interval of values of x where the function increases within the range $-2 < y < 1$

(ii). Write the coordinates of the turning point of the function and hence write the function in the form $y = (x - a)^2 + b$, where a and b are constants

(iii). Find the value of x when $y = 0$ and hence find the value of $\sqrt{3}$ to the nearest first decimal place

(03). (a). A fish vendor had only 'Bala' fish and 'Thalapath' fish. The mass of 'Bala' fish was 5kg more than twice the mass of 'Thalapath' fish. By selling 1kg of 'Bala' fish for Rs.800 and 1kg of 'Thalapath' fish for Rs.2000, his total income was Rs.32800

(i). Set up a pair of simultaneous equations for the above information by taking the mass of 'Bala' fish the vendor had as $\boldsymbol{x}$ kg and the mass of 'Thalapath' fish as **y** kg.

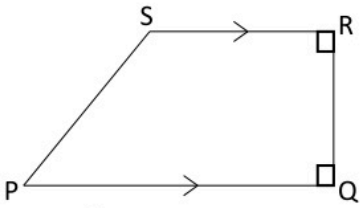
(ii). By solving them, find the mass of 'Bala' fish and the mass of 'Thalapath' fish the vendor had separately

(b). Mrs. Silva who came to by fish, handed over Rs.10000 and requested 2kg of 'Thalapath' fish and 'Bala' fish for the remaining amount of money.

By taking the quantity of 'Bala' fish requested as $\boldsymbol{n}$ kg, build up an inequality, solve it and find the maximum quantity of 'Bala' fish she can obtain

(04). PQRS is a trapezium. $PQ \parallel SR$.

- The length of SR is 3cm less than the length of QR.
- PQ is 6cm longer than QR.



(i). If the length of QR is x, find the length of SR and PQ in terms of x

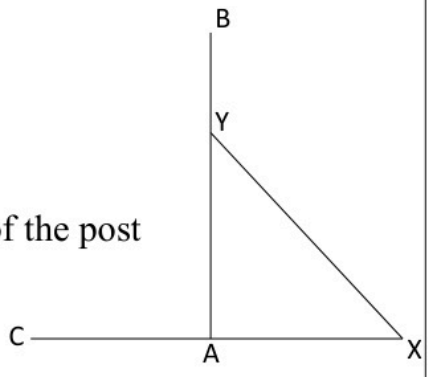
(ii). Obtain an expression for the area of the trapezium in terms of x. If the area of the trapezium is 6cm^2, show that the value of x is given by the equation $2x^2 + 3x - 12 = 0$

(iii). Solve the above equation by using the formula or any other method, find the value of x to the correct first decimal place (Take $\sqrt{105} = 10.24$)

(05). AB is a vertical post. XY is as inclined supporting wire tied to the post to keep it vertical. The length of the wire is 16m. The length of BY is 6m. Saman who is at point C located 20m away from the foot of the post sees the top of the post with an angle of elevation $39^0 21^/$.

Copy the diagram onto your answer sheet, mark the given data, and use the trigonometric ratios to find the length of AY.

Show that the angle the wire makes with the horizontal is greater than the angle of elevation at which Saman sees the top of the post



(06). The frequency distribution below shows the information about the scores obtained and the number of matches played by a cricket team in a sports club during the last 25 matches they played.

Score	120 – 124	125 – 129	130 – 134	135 – 139	140 – 144	145 – 149	150 – 154
No. of matches	2	3	5	6	4	3	2

(i). Find the modal class of this data distribution
(ii). By taking the mid value of the modal class as the assumed mean, or by using any other suitable method, find the mean score obtained in a match
(iii). Show that the total score obtained by this team in the 10 matches with the highest score exceeds 1429

Part B

*Answer **five** questions only*

(07). (a). To make an iron gate, iron rods in different lengths need to be cut so that the lengths of the pieces are in an arithmetic progression. The lengths of the first three iron rods are 8cm, 12cm, and 16cm respectively. The length of the last rod is 120cm
Using the formula of arithmetic progressions, answer the following questions
(i). Find the number of the iron rods used to make the gate
(ii). The 15^{th} iron rod is cloured white, and all the remaining rods are coloured black. Find the length of the 15^{th} iron rod
(iii). Find the total length of the iron rods that are coloured black

(b). Show that the n^{th} term of the geometric progression 2, 8, 32, ……. is given by 2^{2n-1}

(08). Use only a straight edge with cm/mm scale and a pair of compasses to do the following constructions. Show the construction lines very clearly

(i). Construct the triangle ABC in which $AB = AC = 7cm, and \ \ B\hat{A}C = 60^0$
(ii). Construct a line parallel to AB through C
(iii). Construct the circle with centre O lying on the above parallel line and passing through the points B and C
(iv). Name the point where the circle meets the produced CO as T, and construct a tangent to the circle at T
(v). Find the magnitude of the value of $B\hat{T}C$

(09). (a). A solid metal cylinder of radius a and height $3a$ is melted to make 3 metal cones each of radius b and height $2b$, without any waste of metal, show that $\frac{a}{b} = \sqrt[3]{\frac{2}{3}}$.

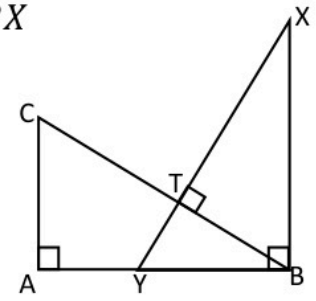
If $b = 10cm$, find the value of a to the nearest first decimal place by using log table

(10). ABC and YBX are two right angled triangles. $B\hat{A}C = Y\hat{B}X = 90^0$. The point Y lies on AB. $BC \perp XY$ and they intersect at T. $2AC = AB = BX$

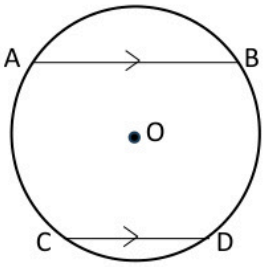
(i). Prove that $ABC\Delta \equiv YBX\Delta$

(ii). Show that Y is the midpoint of AB

(iii). Show that the triangles YBT and BXT are equiangular triangles and prove that TX = 2TB



(11). AB and CD are two parallel chords of the circle with centre O. The straight-line segments AD and BC intersect at T. Copy this diagram in your answer sheet, mark the above information in it, and prove that $A\hat{O}C = A\hat{T}C$

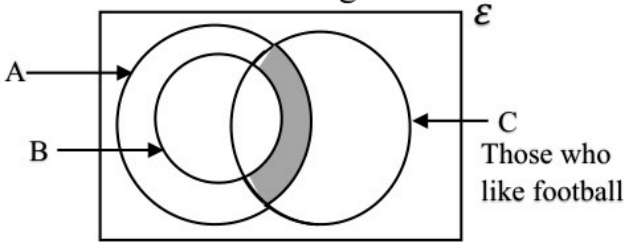


(12).The information collected from a survey conducted about the members of a sports club who like Cricket, Volleyball and Football is given below

- The total number of members is 70
- The number of members who like cricket is 45
- The number of members who like volleyball is 17
- The number of members who like football is 25
- The number players who like only cricket is 23
- The number of players who like all three sports is equal to the number players who like only football

(a). An incomplete Venn diagram relevant to the above information is given below.

(i) If all the players who like Volleyball like cricket, Name the two sets A and B



(ii). Copy the Venn diagram in your answer sheet and include the above information in it

(b). Answer the following questions using the Venn diagram

(i). Find the number of players who do not like volleyball but like both cricket and football

(ii). Find the number of members who like all three sports

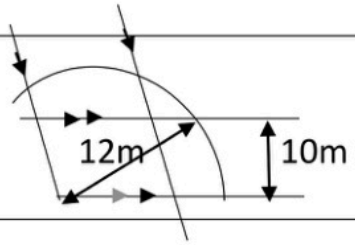
(iii). Express the number of members in the shaded region using set notation

වයඹ පළාත් අධ්‍යාපන දෙපාර්තමේන්තුව

අ.පො.ස. සාමාන්‍ය පෙළ පෙරහුරු පරීක්ෂණය – 2026

පෙරහුරු ප්‍රශ්න පත්‍රය - **02**

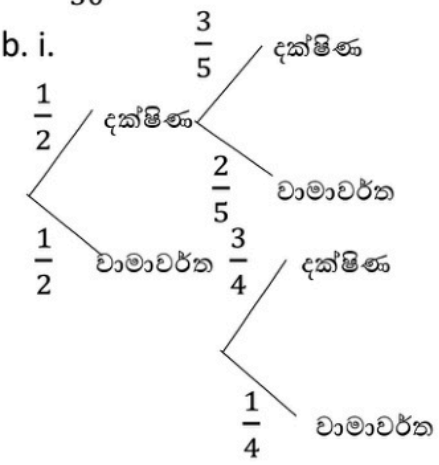
පිළිතුරු පත්‍රය

ප්‍රශ්න අංකය	පිළිතුර	ලකුණු		ප්‍රශ්න අංකය	පිළිතුර	ලකුණු	
01	iii. 4 ට වැඩි වේ.		2	13.	$D\hat{A}B = 50^0$ $x = 40^0$	1 1	2
02	$\frac{ab}{3} \times \frac{6}{ab^2}$ $\frac{2}{b}$	1 1	2	14.	වාප දිග $= 66$cm පරිමිතිය $= 94$cm	1 1	2
03	$a = 60^0$ $b = 50^0$	1 1	2	15.	i. $10 kmh^{-1}$ ii. 5h	1 1	2
04	$6 \times 8 = 48$ $6 \times 2 = 12$ දින 4	1 1	2	16	PR = RQ = 8cm $P\hat{Q}R = Q\hat{O}R = 45^0$ $P\hat{O}Q = 90^0$	1 1	2
05	$12\ x^2\ y^2$		2	17.	$T_6 = 81 \times (\frac{1}{3})^5$ $\frac{1}{3}$	1 1	2
06	2PQT Δ = PQRS $\square$ $\frac{1}{3}$	1 1	2	18.	$x = 70$		2
07	$2x^2 - 6x + x - 3$ $(x-3)(2x+1)$	1 1	2	19.	$y = -2x + 4$ $m = -2$	1	2
08.	i. 6cm ii. $X\hat{Z}Y$ / $X\hat{Z}Q$	1 1	2	20	$\cos\theta = \frac{6}{10}$ හෝ 0.6		2
09.	$x \leq 2$ 1 , 2	1 1	2	21.	9 වන		2
10.	2^6		2	22.	$2 \times \frac{22}{7} \times 14 \times h = 2200$ $h = 25$cm	1	2
11	$x = 2$ AB = 10cm	1 1	2	23.	[5 5]		2
12	i. √ ii. √	1 1	2	24.	$P(A \cap B) = \frac{2}{7}$ $P(A \cup B)' = \frac{5}{7}$	1 1	2
25.							

1 කොටස B

ප්‍රශ්න අංකය	පිළිතුර	ලකුණු		ප්‍රශ්න අංකය	පිළිතුර	ලකුණු	
01.	i. $1 - \frac{1}{9}$	1		02.	i. PB = 25 – 7		
	$\frac{8}{9}$	1	2		= 18m	1	
					වර්ගඵලය = 18 × 14		
					= 252m²	1	2
	ii. කුඩා ගෙඩි $= \frac{8}{9} \times \frac{1}{8}$						
	$= \frac{1}{9}$	1			ii. $\frac{1}{2} \times \frac{22}{7} \times 7 \times 7$	1	
	විකුණූ $= 1 - (\frac{1}{9} + \frac{1}{9})$	1			= 77m²	1	2
	$= \frac{7}{9}$	1	3		iii. වාප දිග $= \frac{1}{2} \times 2 \times \frac{22}{7} \times 7$	1	
					= 22m	1	
	iii. විකුණූ = $1800 \times \frac{7}{9}$				පරිමිතිය = 22 +14		3
	= රු.1400	1			= 36m	1	
	ලැබුණු මු. = 1400 × 150	1					
	= රු. 210000	1	3		iv. $\frac{1}{2} \times 7 \times h = 77$	1	
					h = 22m	1	3
	iv. $\frac{100}{125} \times 210000$	1			රූපයේ මිණුම් දැක්වීම	1	
	රු, 168000	1	2				
			10				10
03	i. $15000 \times \frac{12}{100}$	1		04.	i. 20 – 30		1
	රු. 1800	1	2		ii. $90^0 \longrightarrow 10^0$		
	ii. ආවරණ වැට සඳහා =				$360^0 \longrightarrow 10 \times 4$		
	$10000 \times 12 \times \frac{6}{100}$				= 40		1
	රු. 7200	1			iii. $= \frac{90 \times 12}{10}$	1	
	මුළු වි. = 7200 + 1800				$= 108^0$	1	2
	= රු. 9000	1			iv. a.		
	ඉතිරිය = 120000- 9000						
	= රු. 111000	1					
			3			2	
	iii. කොටස් ග.= $\frac{111000}{50}$						
	= 2220	1					
	ලාභාංශ ආදායම =				ජාල රේඛය සඳහා	2	4
	2220 × 2 = රු.4440	1					
	කොටස් විකිණීමෙන් මු.				b. සංඛ්‍යාත බහු අස්‍රය සඳහා		2
	. =2220 × 60	1					
	= රු. 133200	1	5				
	මුළු මු. = 133200 + 4440		10				10
	= රු. 137640	1					

පන්ති ප්‍ර.	සිෂ්‍ය සං.
10 - 20	10
20 - 30	5
30 - 40	13
40 - 60	12

ප්‍රශ්න අංකය	පිළිතුර	ලකුණු		පිළිතුර	ලකුණු	
05	a. i. ලක්ෂ්‍ය ප්‍රස්තාරය සඳහා		2	ii. ලකුණු		2
	ii. $\frac{16}{30}$		2			
	b. i. 		1	iii. $(\frac{1}{2} \times \frac{3}{5}) + (\frac{1}{2} \times \frac{1}{4})$ $\frac{17}{40}$	1+1 1	3
						10

2026 අ.පො.ස (සා.පෙ) පෙරහුරු ප්‍රශ්න පත්‍රය ②

වයඹ පළාත් අධ්‍යාපන දෙපාර්තමේන්තුව

පිළිතුරු පත්‍රය - II පත්‍රය

ප්‍රශ්න අංකය			පිළිතුර		ල	කු	ණු	වෙනත් කරුණු
01		i	පොලිය සමඟ මුළු මුදල	$= 100,000 \times \frac{110}{100} \times \frac{110}{100}$	1			පියවරෙන් පියවර මුළු මුදල ලබා ගත් විට ලකුණු දෙන්න.
				$=$ රු. 121,000	1	2		
		ii.	මූලික ගෙවීම	$=$ 121,000 - 71,000				
				$=$ රු.50,000	1			
			ගෙවිය යුතු ඉතිරි මුදල	$=$ 200,000 - 50,000				
				$=$ රු.150,000	1			
			මාසික ණය කොටස	$= \frac{150000}{12}$				
				$=$ රු. 12,500	1			
			මුළු පොලිය	$=$ 21,000 - 11,250				
				$=$ රු. 9,750	1			
			මාස ඒකක ගණන	$= \frac{12 \times 13}{2}$				
				$= 78$	1			
			මාස ඒකකයකට පොලිය	$= \frac{9750}{78}$				
				$=$ රු. 125	1			
			වාර්ෂික පොලී අනුපාතිකය	$= \frac{125}{12500} \times 100 \times 12\%$	1			
				$= 12\%$	1	8	10	

ප්‍රශ්න අංකය			පිළිතුර	ල	කු	ණු	වෙනත් කරුණු
2.	a	i.	-3	1			
		ii.	නිවැරදි අක්ෂ	1			
			ලක්ෂ්‍ය 5ක් මත් නිවැරදිව ලකුණු කිරීම	1			
			සුමට වක්‍රය	1	4		
	b.	i.	$2 < x < 3$	2			
		ii.	(1, -3)	1			
			$y = (x - 1)^2 - 3$	1			
			$y = 0$ වන විට,				
			$(x - 1)^2 - 3 = 0$ හෝ $x = 2.7$	1			
			$\sqrt{3} = 1.7$	1	6		
						10	
03		i.	$x = 2y + 5$	1			
			$800x + 2000y = 32800$	1	2		
		ii.	විසඳීම:	3			නිවැරදි සමීකරණ ආදේශයට ල. 1
			$x = 21$	1			
			$y = 8$	1			
			බල මාලු ස්කන්ධය = 21 kg				
			තලපත් මාලු ස්කන්ධය = 8 kg	1	6		
		iii	$800n + 2000 \times 2 \leq 10000$				
			$n \leq 7.5$	1			
			උපරිම ප්‍රමාණය = 7.5 kg	1	2		
						10	
04.		i.	$SR = x - 3$ m	1			
			$PQ = x + 6$ m	1	2		
		ii.	වර්ගඵලය = $\frac{1}{2} \times x \times [(x - 3) + (x + 6)]$	1			
			$= \frac{x(2x+3)}{2}$	1			
			$\frac{x(2x+3)}{2} = 6$				
			$2x^2 + 3x - 12 = 0$	1	3		
		iii					
			$x = \frac{-3 \pm \sqrt{105}}{4}$ ලබා ගැනීමට	2			
			$x = 1.81$ හා $x = -3.31$	2			
			$x = 1.8$	1	5		

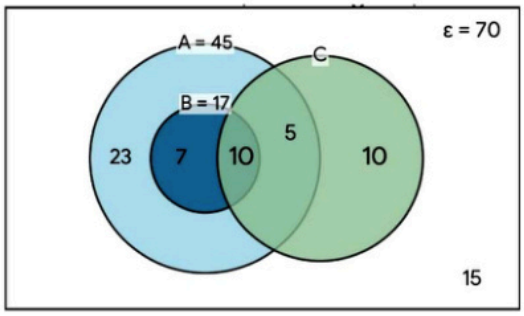
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ප්‍රශ්න අංකය			පිළිතුර	ල	කු	ණු	වෙනත් කරුණු
05.			රූප සටහන ඇඳ දත්ත ලකුණු කිරීමට	2			
			ABC Δ ට				
			$\tan 39° 21' = \frac{AB}{AC}$	1			
			$\tan 39° 21' = \frac{AB}{20}$				
			$0.8200 = \frac{AB}{20}$	1			
			AB = 16.4 m	1			
			AY = 16.4 - 6 = 10.4 m	1			
			AXY Δ ට, $\sin A\hat{X}Y = \frac{10.4}{16}$	1			
			$= 0.6500$	1			
			$A\hat{X}Y = 40° 33'$	1			
			$39° 21' < 40° 33'$	1		10	
06.		i.	135 – 139		1		
		ii.	මධ්‍ය අගය තීරුව	1			
			fx තීරුව	1			උපකල්පිති මධ්‍යන්‍යය භාවිත කර ඇත්නම් x - 1 d - 1 fd – 1 $\sum fd$ - 1
			Σf	1			
			Σfx	1			
			මධ්‍යන්‍යය $= \frac{\sum fx}{\sum f}$	1			
			$= \frac{3420}{25}$	1			
			$= 136.8$	1	7		
			$= 137$				
		iii	$(150 \times 2) + (145 \times 3) + (140 \times 4) + (135 \times 1)$				
			$= 300 + 435 + 560 + 135$				
			$= 1430$	1			
			$1430 > 1429$	1	2		
						10	
07	a	i.	8, 12, 16, ...				
			$T_n = a + (n - 1)d$				
			$120 = 8 + (n - 1) \times 4$	1			
			$n = 29$	1	2		
		ii.	$T_{15} = a + (n - 1)d$				
			$T_{15} = 8 + (15 - 1) \times 4$	1			
			$T_{15} = 64$	1	2		

ප්‍රශ්න අංකය			පිළිතුර	ල	කු	ණු	වෙනත් කරුණු
		iii	$S_n = \frac{n}{2}(a + l)$				
			$S_{29} = \frac{29}{2}(8 + 120)$	1			
			$= 1856$	1			
			$1856 - 64 = 1792$ cm	1	3		
	b						
			$a = 2,\ r = 4$				
			$Tn = ar^{n-1}$				
			$Tn = 2 \times 4^{n-1}$	1			
			$= 2 \times 2^{2n-2}$	1			
			$= 2^{2n-1}$	1	3		
						10	
08		i	AB නිර්මාණය	1			
			$B\hat{A}C$ නිර්මාණය	1			
			ABC Δ සම්පූර්ණ කිරීම	1	3		
		ii	C හරහා AB ට සමාන්තර රේඛාව නිර්මාණය		2		
		iii	වෘත්තය නිර්මාණය		2		
		iv	ස්පර්ශකය නිර්මාණය		2		
		v.	$B\hat{T}C = 30^0$		1		
						10	
09			සිලින්ඩරයේ පරිමාව $= \pi r^2 h$				
			$= \pi \times a^2 \times 3a$				
			$= 3\pi a^3$	1			
			කේතුවක පරිමාව $= \frac{1}{3}\pi r^2 h$				කේතු 3 හි පරිමාව ලියා ඇති විටද ලකුණු දෙන්න.
			$= \frac{1}{3} \pi \times b^2 \times 2b$				
			$= \frac{2}{3}\pi b^3$	1			
			$3\pi a^3 = \frac{1}{3}\pi b^3 \times 3$	1			
			$\frac{a^3}{b^3} = \frac{2}{3}$				
			$\frac{a}{b} = \sqrt[3]{\frac{2}{3}}$	1			

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ප්‍රශ්න අංකය			පිළිතුර	ල	කු	ණු	වෙනත් කරුණු
			$\frac{a}{b} = \sqrt[3]{\frac{2}{3}}$ $\frac{a}{10} = \sqrt[3]{\frac{2}{3}}$ $a = \sqrt[3]{\frac{2}{3}} \times 10$ $\lg a = \frac{1}{3}(\lg 2 - \lg 3) + \lg 10$ $= \frac{1}{3}(0.3010 - 0.4771) + 1.0000$ $= \frac{1}{3} \times T.8239 + 1.0000$ $= T.9413 + 1.0000$ $\lg a = 0.9413$ $a =$ antilog 0.9413 $= 8.736$ $a = 8.7$ cm	1 1 1 1 1 1		10	
10		i.	ABC Δ ≡ YBX Δ (කෝ.කෝ.පා) පෙන්වීම		3		
		ii.	Y යනු AB හි මධ්‍ය ලක්ෂ්‍යය බව පෙන්වීමට		2		
		iii	YBT Δ හා BXT Δ සමකෝණී බව ප්‍රකාශ කිරීමට TX = 2 . TB බව පෙන්වීමට	3 2	5		
						10	
11			රූපය පිටපත් කර දත්ත ලකුණු කිරීම $B\hat{A}T = C\hat{D}A$ (ඒකාන්තර) $A\hat{B}T = C\hat{D}A$ (එකම ඛණ්ඩයේ කෝණ) $\therefore A\hat{B}T = B\hat{A}T$ $\therefore A\hat{T}C = 2\,A\hat{B}T$ $A\hat{O}C = 2\,A\hat{B}T$ (ප්‍රමේයය) $\therefore A\hat{T}C = A\hat{O}C$	2 1 1+1 1 1 2 1	10	10	
12	a	i.	A = {ක්‍රිකට් වලට ප්‍රිය කරන } B = { අත්පන්දු වලට ප්‍රිය කරන }	01 01	2		

		ii.	වෙන් රූපය ඇඳීම සහ දත්ත ලකුණු කිරීම: 		5		
	b	i.	5	1			
		ii	10	1			
		iii	n[(A ∩ C) ∩ B'] = 5	1	3	10	

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