බස්නාහිර පළාත් අධ්‍යාපන දෙපාර්තමේන්තුව
மேல் மாகாணக் கல்வித் திணைக்களம்
Department of Education - Western Province

අධ්‍යාපන පොදු සහතික පත්‍ර (සාමාන්‍ය පෙළ) විභාගය, 2025 (2026) - පෙරහුරු පරීක්ෂණය
General Certificate of Education (Ord, Level Examination) 2025(2026) - Practice Test

ශ්‍රේණිය தரம் Grade	විෂය பாடம் Subject	පත්‍රය வினாத்தாள் Paper	කාලය காலம் Time
11	Mathematics	I	පැය 2 යි

Index Number:.....

Certified COrrect

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Signature of Invigilator

Important:

- This question paper consists of **8** pages.
- Write your **Index Number** correctly in the appropriate places on **this page** 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 the **correct units** in 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.

Part	Questions Numbers	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

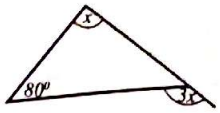
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Part A
Answer all questions on this paper itself.

01. 5 men completed $\frac{1}{3}$ of a certain Work in 3 days. How many man days needed to complete the rest of the work.

02. Find the value of x

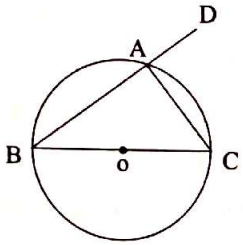


03. The value of $\sqrt{16 \times 32}$ for the 1st approximation is:
(i) 4 x 5.2 (ii) 4 x 5.4 (iii) 4 x 5.7 (iv) 4 x 5.8

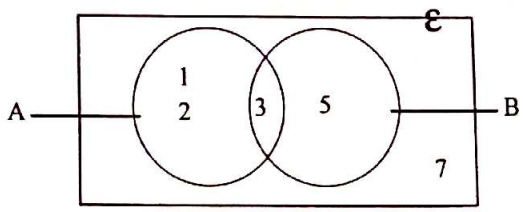
04. Solve $x^2 - 49 = 0$

05. Simplify $\frac{1}{2x} - \frac{3}{4x} + \frac{11}{12x}$

06. According to the given information in the figure,
Find the magnitude of DÂC.



07. According to the given Venn diagram write the elements of $A' \cup B$



08. Solve the inequality of $3(x - 1) < 2x - 3$ and find the maximum value that X can take.

[See page three

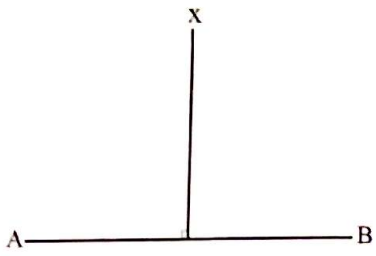
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09. Rs. 1600 per quarter was charged by a municipal council for an assessed value of Rs. 80000 house. Find the annual rate percentage?

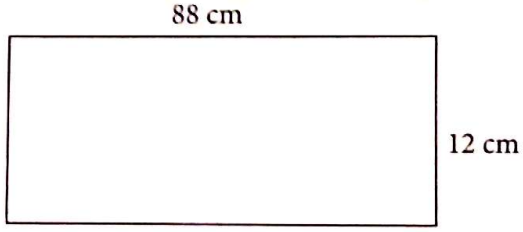
10. Find the gradient of the straight line which is passing through the point (4, 5) and the intercept is 2.

11. A and B are two independent events. If $P(A) = \frac{5}{7}$ and $P(B) = \frac{2}{5}$ find $P(A \cap B)$

12. A parachute at X moving vertically downwards is observed by vidwa from point A with an angle of elevation of 65°. When the parachute descends 20m from that point (X), Risini who was inside the parachute observes the foot of a pole at B with an angle of depression of 70°. Mark the given information in the figure.

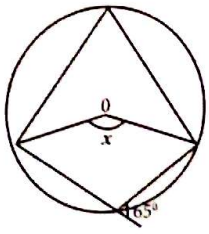


13. The given figure with measurements shows a label which was paste on a tin. Find the radius of the tin. (Ignore the pasting allowances)



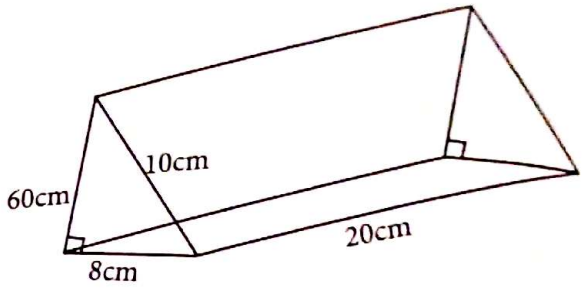
14. a, 12, -36 are the first 3 terms of geometric progression. Find the common ratio and the 1st term of this progression.

15. According to the given figure, find the value of X.



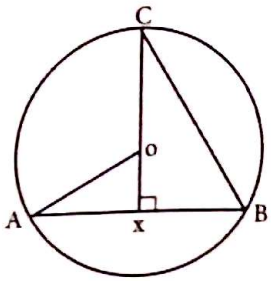
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16. Find the volume of the prism.

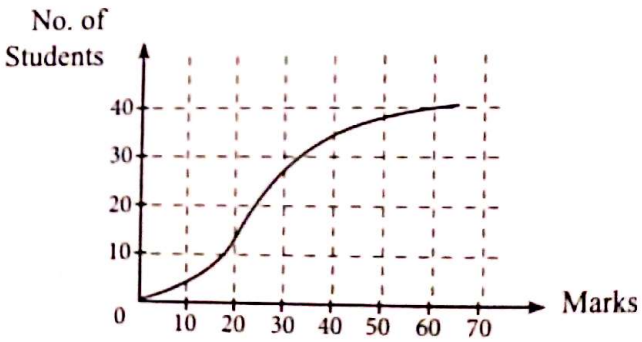


17. $A = \begin{pmatrix} -2 & 0 \\ 1 & 4 \end{pmatrix}$ and $B = \begin{pmatrix} 3 \\ -1 \end{pmatrix}$ Write the order of metrix of AB.

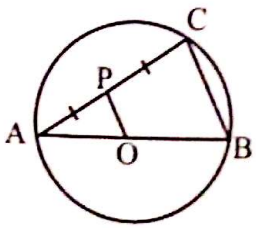
18 Points A, B and C are the points on the circle with centre O.
Find the magnitude of $A\hat{B}C$



19. According to the given cumulative frequency curve, find the inter-quartile range.



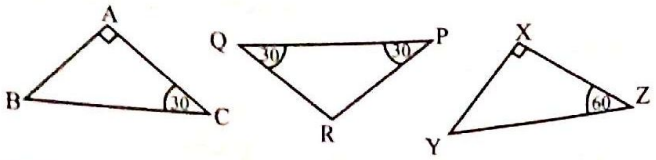
20. According to the given figure, if AB = 10cm, AC = 6cm, find the length of OP.



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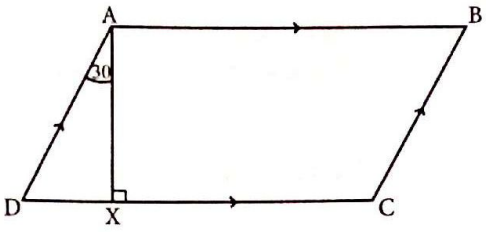
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21. Select and write down a pair of congruent triangles.

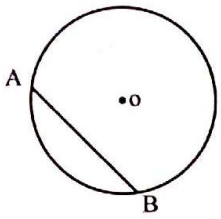


22. Find the factors $x^2 - x - 42$

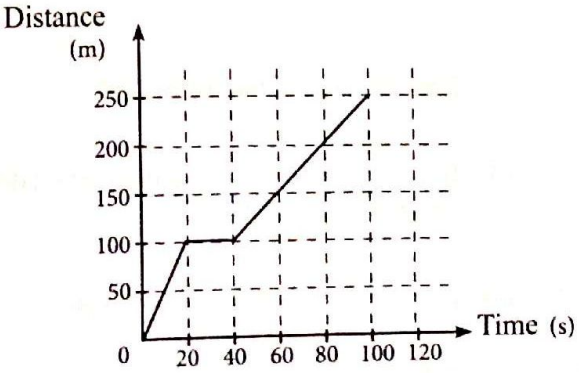
23. In the given parallelogram ABCD, AX is drawn perpendicularly from A to DC. If $D\hat{A}X = 30^o$ find the angle $B\hat{C}D$.



24. A and B are the points on the circle with centre O.
Draw the loci, which is equidistance to the points A and B.



25. The given distance time graph shows a path travelled by a child. Find the average speed of the child



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Part B

Answer all questions on this paper itself

01. Risith deposited 10% of his salary in a bank and he allocated $\frac{1}{9}$ of the remaining for his brother's education. Then he allocated $\frac{5}{8}$ of the remaining for his parent's needs.

i) What fraction of his whole salary is remaining after allocating $\frac{1}{9}$ for his brother's education.

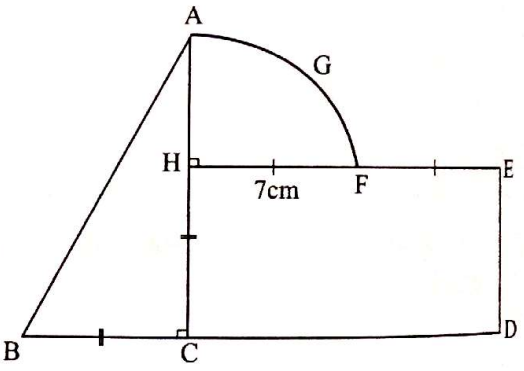
ii) What fraction of his whole salary he allocated for his parent's needs.

iii) If the amount remaining after allocating money for his brother and parents is Rs.27,000. Find amounts allocated for his brother and parents separately.

iv) Find the total salary he received before depositing in the bank.

v) What percentage of the whole salary he spent for his parent's needs.

02. The figure shows a structure of a board. This figure consists of a rectangular part, a right-angled triangular part and a sector. (Take $\pi = \frac{22}{7}$)



i) Find the area of the sector AHF.

ii) If the area of the rectangular part CDEH is 7cm^2 less than twice the area of the sector AHF, find the length of DE.

iii) If CH=BC, find the length of AB.

iv) Find the area of the whole figure.

v) If 13 LED bulbs were fixed along the edge of BAGF from B to F, calculate the distance between two consecutive bulbs.

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03. A person deposited half of Rs.100,000 in a bank that pays 8% compound interest rate per annum.

i) Find the total interest after two years period.

The balance amount he invested in a company to buy shares each at Rs.50.

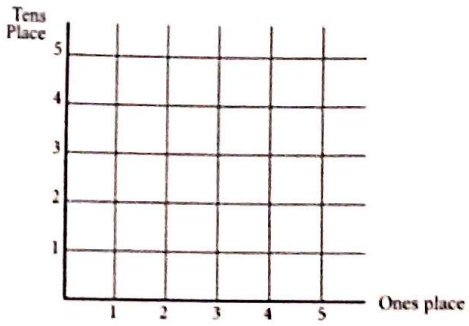
ii) Find the number of shares bought by the person.

iii) Find the dividend per share paid by the company.

iv) If he received Rs.65,000 as capital gain after selling his all shares, find the capital gain per share.

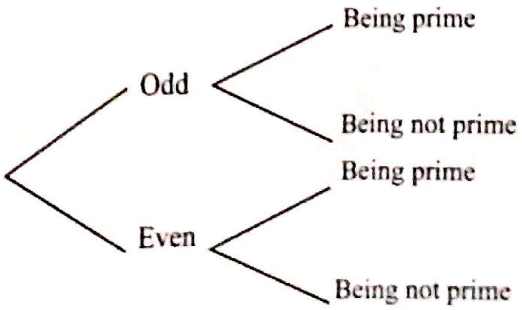
04.a) In a box, there are 5 identical cards. Two cards were drawn together and make a number using them.

i) Mark the sample space of a1 possible numbers, that can be made by using the two cards.



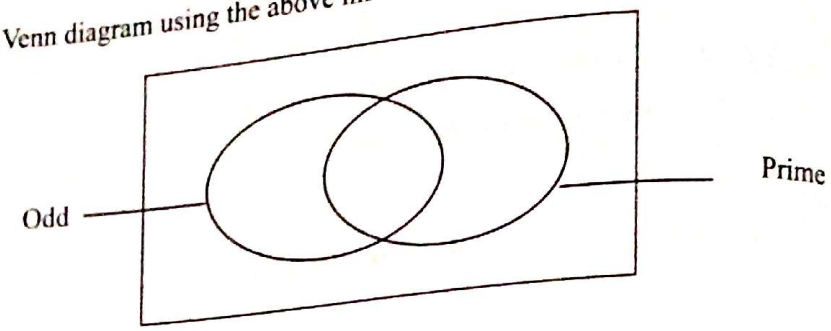
ii) Find the probability that the number written using the 2 cards being a prime number.

b) i) Complete the following tree diagram and find the probability that the number being an odd-prime number.



[See page eight

ii) Complete the following Venn diagram using the above information.



05. The following table shows the speed of vehicles traveled within an hour.

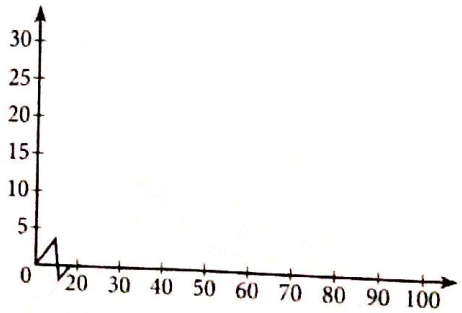
Speed (kmh^{-1})	30-40	40-50	50-60	60-70	70-100
No. of Vehicles	5	6	7	5	9

i) Represent the above information using a histogram.

ii) Using the histogram complete the frequency polygon.

iii) Complete the following table and draw the cumulative frequency curve on the given plane. Hence find the interquartile range.

Speed (Kmh^{-1})	No. of Vehicles (f)	Cumulative Frequency
30-40	5	5
40-50	6	.....
50-60	.....	18
60-70	5	23
70-100	9	32



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மேல் மாகாணக் கல்வித் திணைக்களம்
Department of Education - Western Province

අධ්‍යාපන පොදු සහතික පත්‍ර (සාමාන්‍යපෙළ)විභාගය, 2025 (2026) - පෙරහුරු පරීක්ෂණය
General Certificate of Education (Ord,Level Examination) 2025(2026) - Practice Test

ශ්‍රේණිය Grade	11	විෂය Subject	Mathematics	පත්‍රය Paper	II	කාලය Time	පැය 3 යි

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 r and height h is* $\pi r^2 h$.
- *The volume of a sphere of radius r is* $\frac{4}{3}\pi r^3$.

Part A
Answer five questions only

01) The following is an incomplete table for the values of y corresponding to the given values of x; for the quadratic function of the form $y = x(x - 2) - 2$

X	-2	-1	0	1	2	3	4
Y	6	1	-2	....	-2	1	6

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

ii) Draw the graph of the function using a suitable cartesian plane and a suitable scale.
Using the graph;

iii) Write the coordinates of the turning point.

iv) Find the range of the x which the function is increasing negatively.

v) Write the equation of the graph of the above function in the form $y = (x + a)^2 - b$ and using it's positive root when $y = 0$, find the value of $\sqrt{3}$.

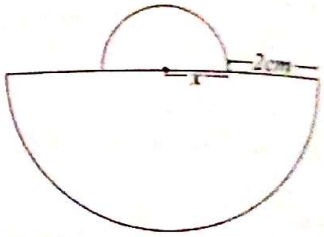
02. A television set worth Rs.108,000 is purchased by paying $\frac{1}{3}$ of it's value as a down payment and the balance is agreed to be paid in 24 equal monthly installments with an annual interest of 18%. If the interest is calculated using the reducing balance method, find the value of monthly installment.

03. On a certain day, the number of male patient admitted to a hospital was 12 less than twice the number of female patients. On the second day, the number of male patients admitted was twice the number admitted on the first day and the number of female patients admitted was three times the number admitted on the first day. If the total number of patients admitted over theses two days was 414, find the number of male patients (y) and female patients (x) admitted on the first day.

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04. The given structure is constructed by pasting two different semi-circles.

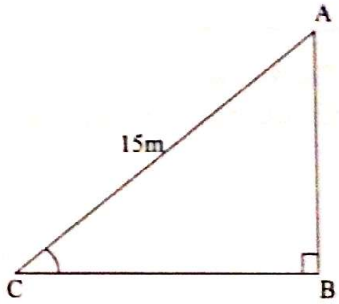


i) Express the area of the large semi-circle in terms of π and x.

ii) Express the area of the small semi-circle in terms of π and x.

iii) If the area of the whole structure is 8π, find the radius of the large semi-circle.

05. There is a tree AB on a horizontal ground. The foot of the tree is B and top of the tree is A. From a point on the horizontal ground, a wire 15m long is tied to the top of the tree at A.



i) If there is a house at C, will there be damage to the house if the tree AB falls towards it? Find the answer using trigonometric ratios.

ii) Based on your answer above, use the tan ratio to verify that the angle of the wire tied from C to A with the ground is 47°.

06. The following table shows the sales of packets of Keeri Samba (5Kg) in a certain shop.

Class interval (No. of Packets)	5-9	10-14	15-19	20-24	25-29	30-34	35-39
frequency (No. of Days)	4	6	8	12	10	8	2

i) What is the modal class of the above frequency distribution?

ii) Find the mean number of packets sold per day.

iii) What is the expected number of packets that could be sold in 3 months.

iv) If a profit of Rs.12 is made from one 1kg, show that the profit earned in 3 months is less than Rs.11,500.

v) If the maximum number of packets were sold within the 1st 10 days, show that the number of packets sold in those 10 days is approximately 11 of the total packets sold in 50 days.

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Part B
Answer five questions only

07. From a water-filled in a tank and not used for other purposes. 120ml leaks in the 1st hour, 116ml in the 2nd hour and 112ml in the 3rd hour.

i) Considering the water leakage as terms of an arithmetic progression, write the first 3 terms.

ii) What is the volume of water lost at the end of 12th hour?

iii) After how many hours will the water leakage become zero?

iv) Find the total volume of water that leaked from the tank.

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

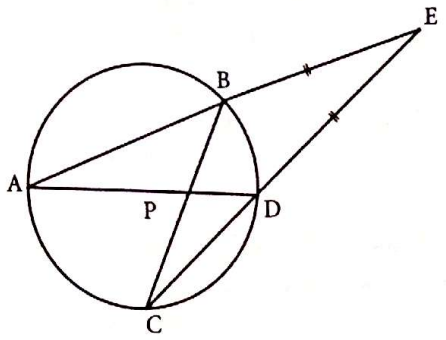
i) Construct triangle ABC such that AB = 7cm, $C\hat{A}B = 60^{\circ}$ and AC = 5cm.

ii) Construct a line parallel to AB passing through C.

iii) Construct a triangle equal in area to the triangle ABC such that AD = 8cm.

iv) Construct the circle passing through points B, C and D and measure and write it's radius.

09.i) The angle subtended by an arc of a circle at the centre is twice the angel subtended by it at any point on the remaining part of the circle. Using the above theorem show that the angles in the same segment are equal.



ii) a) Name an angle equal to $A\hat{D}C$.

b) Prove that $\Delta AED \equiv \Delta CBE$.

c) If BC = BE, Prove that $3B\hat{C}D = A\hat{P}C$.

10. The height of a right circular cylindrical vessel with radius 'r' is $\frac{3}{4}$ of its base radius. The radius of a right cone shaped glass is 'a' and its height is $\frac{1}{2}$ the radius of the cylindrical vessel. If the cylindrical vessel can be filled with water using 6 such cone shaped glasses, show that $a = \sqrt{3}\,\frac{r}{2}$, and show that if r = 3.5cm, the value of a is greater than 3cm.

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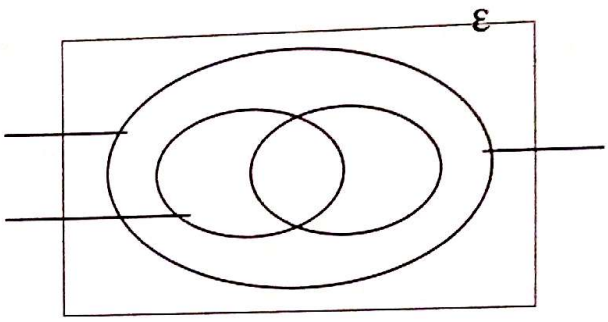
11. In a triangle ABC, AB = AC. The base BC is produced to D such that AC = CD. If the line AD intersects the circumcircle of triangle ABC at E, show that BE is the angle bisector of $A\hat{B}C$.

12. This Venn diagram was drawn based on information gathered from a Grama Niladari division regarding the availability of water, electricity and telephone facilities. If this set considered as $[B \cup C] \subset A$

A = {with water}

B = {with electricity}

C = {with telephone facilities}



i) Copy of the Venn diagram and name the sets.

ii) Shade the region that have only water and electricity.

iii) There are 27 houses with water and electricity and 15 houses have all the three facilities. Include this information in the Venn diagram.

iv) If there are 75 houses with water and 30 houses that have water but no electricity or telephone facilities, how many houses have both telephone and water facilities.

v) If there are 15 houses that do not even have water, show that the percentage of houses having only that facility does not exceed 34%.

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