



# Mn / Sithyvinayakar Hindu College (National School – Mannar)

மன் / சித்திவிநாயகர் இந்துக்கல்லூரி (தேசிய பாடசாலை – மன்னார்)

**First Term Exam – 2019**  
முதலாந்தவணைப்பரீட்சை- 2019

**Grade -11**  
தரம் - 11

**32 - Mathematics Paper – 1**  
32 - கணிதம் வினாத்தாள் - 1

**Time – 2 Hour**  
நேரம் - 2 மணித்தியாலம்

சுட்டிலக்கம்/Index no -.....

.....  
பரீட்சை மேற்பார்வையாளர் கையொப்பம்  
**Signature of Invigilator**

### Important:

- Write your **index no** correctly in the appropriate place on the **page one** and **page three**.
- Answer all questions **on this paper itself**.
- Marks will be awarded follows:  
02 marks each for questions part A  
1 – 25 in part A. 10 marks each for questions in part B.

### முக்கியமான விடயம்

- முதலாம் மற்றும் மூன்றாம் பக்கத்தில் உரிய இடத்தில் சரியாக உங்கள் சுட்டிலக்கதினை எழுதுக.
- எல்லா வினாக்களிற்கும் இத்தாளிலேயே விடையளிக்குக.
- புள்ளி வழங்கப்படும் முறை:  
பகுதி A 1 – 25 வரையான வினாக்களிற்கு 02 புள்ளியும், பகுதி B ஒவ்வொன்றிற்கும் 10 புள்ளியும் ஆகும்.

**For marking examiner`s use only**  
வினாத்தாள் மதிப்பீட்டார் மட்டும்

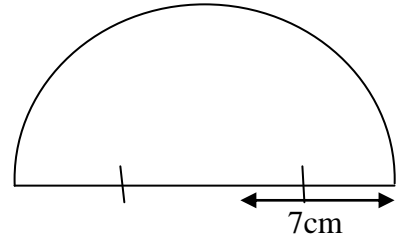
வினா இலக்கம் Question number	புள்ளி Marks
A	1 - 25
B	1
	2
	3
	4
	5
மொத்தம் Total	

.....  
**Signature of Marking examiner**  
வினாத்தாள் மதிப்பீட்டார் கையொப்பம்

**Part A**

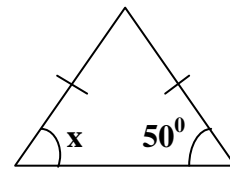
1. A person obtained a loan of Rs.60000 a simple interest rate of 15%. What is the interest payable for a year?

2. Find the perimeter of the sector given in the diagram. ( $\pi = \frac{22}{7}$ )



3. Factorize  $a^2 - 7a + 10$

4. According to the given data, find x



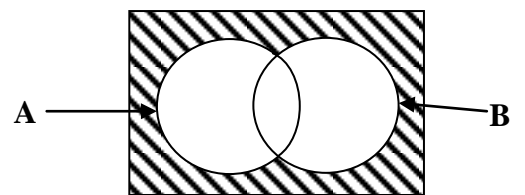
5. Find the median of the given data, 11, 15, 6, 7, 10, 5, 12

6. Compare the following using the signs  $<$ ,  $>$  and  $=$

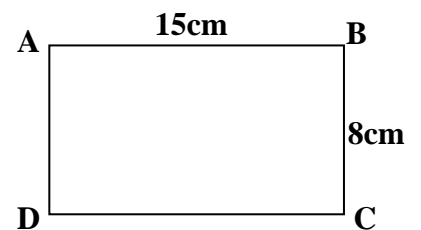
$(-2)^5 \dots\dots\dots (+2)^5$

$(-8)^{12} \dots\dots\dots (+8)^{12}$

7. Write the shaded part of the Venn diagram in a set notation.



8. In the rectangle ABCD, AB=15cm and BC=8cm, Find the length of AC



9. Write  $\log_3 27 = 3$  in index form.

10. Simplify.  $\frac{1}{x} + \frac{2}{3x}$

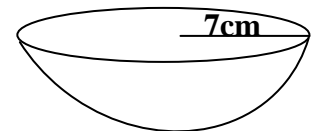
11. Find the value of  $\sqrt{15}$  to the first approximation.

12. Write down the set of positive integers that satisfy the inequality  $2x - 5 > 11$

13. Solve  $x^5 - 4 = 28$

14. Find the LCM  $5ab, 10ab^2, 30a^2b$

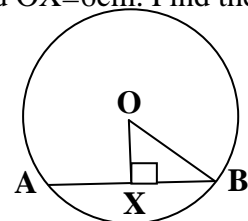
15. Find the total surface area of the hemi sphere solid with radius 7cm



16. Make "a" as the subject of the formula  $\frac{a}{1-a} = r$

17. A work completed by 12 men in 10 days is completed by a bulldozer in 8 hours. How much work in man day is done by the bulldozer in one hour?

18. The perpendicular drawn from the centre O to the chord AB is OX. If OB=10cm and OX=6cm. Find the chord length AB

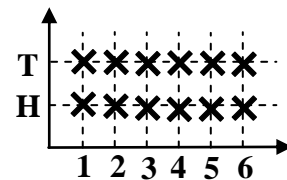


19. If  $2x + y = 6$

$2y + x = 9$ , Find the value of  $x + y$  without simplifying the equation.

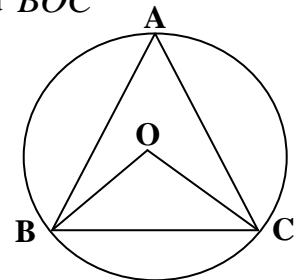
20. Indicate the 18<sup>th</sup> term of the arithmetic progression 8, 16, 24,..... as index form.

21. The following grid shows the sample space related to the experiment of tossing a coin and dice. What is the probability of getting the odd number and head?

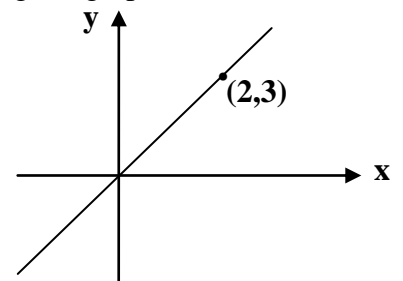


22. A vehicle starting from town A at 7.00 am, with uniform speed of  $60\text{kmh}^{-1}$ . Find the distance travelled by the vehicle when the time is 9.00 am.

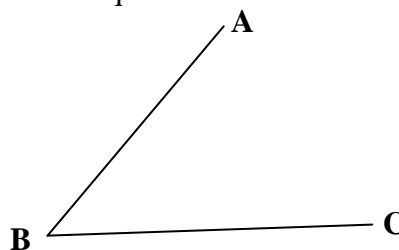
23. The vertices of the equilateral triangle are located on the circle of centre O. Find  $\widehat{BOC}$



24. The diagram given the graph of the function  $y = mx$ , Find the value m using the graph



25. Show the point x by constructing lines which is equidistance from the two line AB, BC and equidistance from the two point B, C



$2 \times 25 = 50\text{Marks}$

## Part B

1. One person has allocated  $\frac{7}{12}$  of his monthly income for food,  $\frac{2}{5}$  of the rest for education, further  $\frac{1}{3}$  of the rest for other purpose and save the rest.
- After spending for the food, find the remaining amount in fraction of the whole?
  - Find the fraction of monthly income which spends for education?
  - Find the fraction of monthly income he spend for other purpose from the whole?
  - If he saves Rs.10000, find his monthly income?

3 + 3 + 2 + 2 = 10Marks

2. a) The annual estimated value of a house is Rs.50000. The urban council charges an annual rates of 12% for this property.
- What is the annual rate changed for the house?
  - What is the rate is paid for a quarter?
  - If the rates charged for a quarter for another house in the same urban council is Rs.600. what is the annual estimated of the house?
- b. A tariff of 30% is charged for an imported television. The price of the television with the tariff is Rs.39000. What is the value of the television before imposing the tariff?

2 + 2 + 2 + 4 = 10Marks

3. There are five cards available in a box which are numbered 1-5, one card is randomly selected and observed, then again put inside the box. Further another card is randomly selected from the box.

i. Represent the sample space of the about experiment in grid.



ii. Find the probability of getting the card number 5 at least once?

iii. Find the probability of getting the same numbered card in both instances?

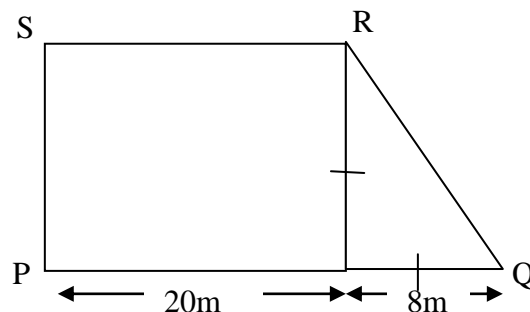
iv. Find the probability sum of the numbers getting both instances to be more than 6?

$4 + 2 + 2 + 2 = 10$  Marks

4. The trapezium shaped flower garden of Suren is shown in the diagram.

i. Calculate the area of isosceles right angle triangle?

ii. Find the total area of the flower garden?



iii. Find the value of  $QR^2$

iv. What is the theorem used to calculate  $QR^2$

v. Suren makes half circular flower bed in outside, which has PS as a boundary and diameter. Sketch the made flower bed in the above diagram.

vi. What is the extend of the half circular area in term at  $\pi$

$2 + 2 + 2 + 1 + 2 + 1 = 10$  Marks

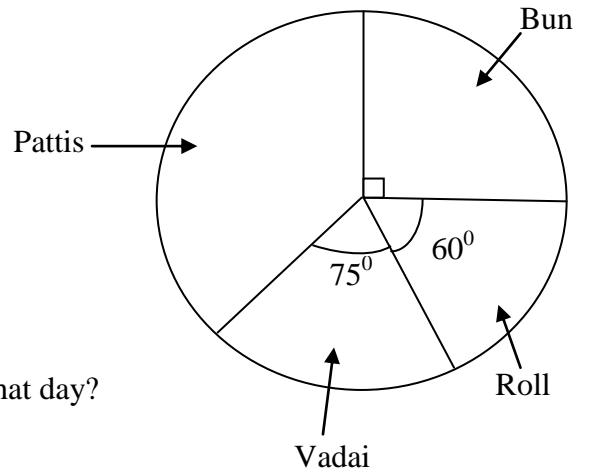
5. The details of sold short eats on a certain day in a “Keerthika” restaurant are given in the pie chart.

i. What is the magnitude of angle of sector which denotes people who ate “pattis”?

❖ The number of people who ate “vadai” is 20

ii. Find the number of people who ate “roll”?

iii. Find the total number who came to the restaurant on that day?



❖ Four of the people who ate “vadai”, ate “pattis” on next day. (The total number of consumers not change)

iv. Draw a pie chart to denote the consumed short eats in the restaurant next day.

v. In that, find the magnitude of the angle of sector which denotes “pattis”?

2 + 2 + 2 + 2 + 2 = 10Marks