



Jaffna Hindu College

1st Term Evaluation Exam - 2022

Grade - 09

Mathematics

Time : 2.30 hours

Name/ Index No:

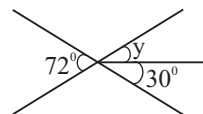
Part - I

❖ Answer the all questions.

01. Write the next two term of the following number pattern.

1, 3, 6, 10,,

02. Find the value of y in the given diagram.



03. Represent the decimal number 2^5 as a binary number.

04. Shade $\frac{3}{8}$ of the given diagram.

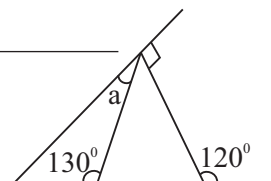


05. Express 0.7 as a percentage.

06. If $74 \times 143 = 10582$, find the value of $10.582 \div 1.43$

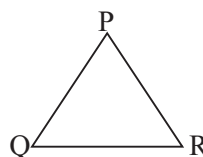
07. Solve. $2x - 1 = 5$

08. Find the value of a in the given diagram.



09. Area of the rectangle is $a^2 + 8a - 20$ and breadth of it is $(a - 2)$. Find expression for the length of the rectangle in terms of 'a'.

10. In the figure, $PQ = QR$ and $QR = RP$.
If $PQ = 7.5\text{cm}$, find the perimeter of triangle PQR.



11. Find the value of $2m - 3n$ when $m=5$ and $n = \frac{1}{3}$

12. Factorize: $b^2 - 121$

13. Set $A = \{\text{Digits of the number } 20102\}$, find $n(A)$.

14. A table was sold at a discount of 10% of the marked price. If it was sold for Rs. 4 500, find its marked price.

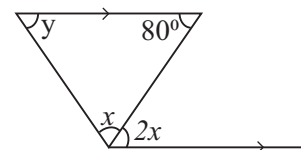
15. Remove the brackets and simplify. $(x+7)(x-3)$

16. Put '✓' sign against the true statement and '✗' sign against the false statement below.

$27 \times 1.1 < 27$	
$3^2 + 4^2 = 5^2$	

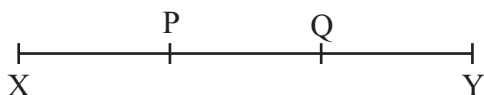
17. Convert 0.5 m^3 into ℓ .

18. Find the value of x and y in the given figure.



19. Express $\frac{2}{3}$ of a day in hours.

20. The points P and Q are located on the line XY such that $XQ = PY$, If $XY = 20 \text{ cm}$ and $QY = 6 \text{ cm}$ find the length of PQ.



(20 x 2 = 40 Marks)

Part - II

Q1. a) A Pineapple vendor bought 400 fruits at Rs. 250 each. Out of these, 10% fruits were rotten before selling. The rest of the fruits were sold at Rs. 300 each.

- Find the price at which the vendor bought 400 pineapples.
- How many pineapples were rotten?
- How much money did he earn by selling the fresh fruits?
- State whether the vendor gained was a profit percentage or a loss percentage.

b) Find the value of b and c if

$$(x+7)(x-4) = x^2 + bx + c.$$

(8+2=10 Marks)

Q2. a) A long wire is cut into pieces in such a way that the first piece is 20 cm and every other piece that is cut next is 4 cm longer than the preceding piece.

- Write down the lengths of the first three pieces separately.
- When the lengths of these pieces are taken in order, what is the common term of the progression?
- Which piece is 0.56 m long?

b) Find the value.

i. $1011_{\text{two}} + 11_{\text{two}}$

ii. $10110_{\text{two}} - 1011_{\text{two}}$

(6+4=10 Marks)

Q3. a) Base area of a cuboid shaped water tank is 4 000 cm² and its height is 0.75 m. Water is filled in the tank up to a height of 0.5 m.

- Find the capacity of the tank in ℓ.
- Find the volume of water in the tank (given m³).

b) Complete the table.

The inner dimensions of the cuboid shaped tank			The capacity of the tank	
Length (m)	Wight (m)	Height (m)	m ³	ℓ
3	1	2
3	2	9000
2	1.5	3

(4+6=10 Marks)

Q4. a) Kobi travels $\frac{2}{3}$ of the journey by bus and $\frac{1}{4}$ of the journey by train.

- Find the distance travel by bus and train as fraction of the whole journey.
- The rest of the journey he traveled by a three wheeler. find the distance traveled by three wheeler as fraction of the whole journey.

b) Simplify.

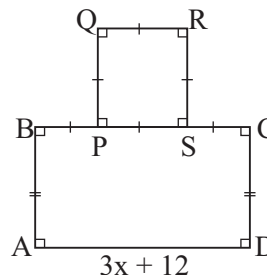
i. $\left(\frac{1}{2} - \frac{1}{3}\right) \div 2\frac{5}{6}$

ii. $\frac{3}{7}$ of $1\frac{3}{4}$

c) How many metres in $\frac{1}{8}$ of 2 km?

(4+4+2=10 Marks)

Q5. a) If the length and breadth of rectangle ABCD respectively $3x+12$, 10. PQRS is a square.



- Find the side of the square in terms of x .
- Find the perimeter of the given figure in terms of x .
- Find the area of the rectangle ABCD in terms of x .
- What is the total area of the whole figure in term at x .

b) Factorize.
 $ax - a - x + 1$

(8+2=10 Marks)

Q6. a) A Person bought a bed at Rs. 80 000 and he marked the price keeping 25% profit.

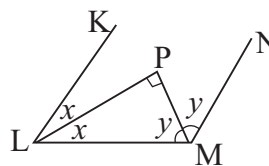
- Find the marked price.
- If 10% of the discount is given from the marked price at sale, what is the discount?
- Find the selling price.
- Find the percentage of profit.


b) If a broker charged Rs. 20 000 for selling a motor cycle which was worth Rs. 250 000, calculate the commission percentage that he charged.

(8+2=10 Marks)

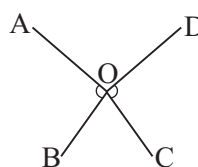
Q7. a)

- Find the value of $x+y$
- What is the relationship of KL and MN (give the reason).



b)  Show that $a - c = d - b$

c) $\hat{A}OB = \hat{C}OD$
In the given figure.
Show that reflex $\hat{B}OD = \text{reflex } \hat{A}OC$



(4+3+3=10 Marks)