

QSM
8 - Std
Time : 2.00 Hrs

P. Uma M.Sc B.Ed
HVNISCHOOOL - Keeripatty (P.O)
FIRST TERM EXAMINATION - 2022 - Salem (DT)
MATHS

--	--	--	--	--	--

Marks : 60

I Choose the correct answer.

5 X 1 = 5

1. $-\frac{5}{4}$ is a rational number which lies between
a) 0 and $-\frac{5}{4}$ b) -1 and 0 c) -1 and -2 d) -4 and -5
2. Area of the circle
a) πr^2 sq.units b) $\frac{1}{2} \pi r^2$ units c) $\frac{1}{4} \pi r^2$ units d) $\frac{3}{4} \pi r^2$ units
3. The product of $7P^3$ and $(2P^2)^2$ is a) $14P^{12}$ b) $28P^7$ c) $9P^7$ d) $11P^{12}$
4. What is the marked price of a hat which is bought for Rs. 210 at 16% discount?
a) Rs. 243 b) Rs. 176 c) Rs. 230 d) Rs. 250
5. Two similar triangles will always have angles.
a) acute b) obtuse c) right d) matching

II Fill in the blanks with correct answer.

6. The multiplicative inverse of -1 is
7. If $a \neq 0$ then $a^0 = \dots$.
8. The meeting point of more than two edges in a polyhedron is called as vertex.
9. $(2y^2z) \times (-2xy) = \dots$.
10. If 30% of x is 150, then x is
11. In any triangle sides are opposite to equal angles.

$$\begin{array}{r} 327000 \\ 39000 \\ 33000 \\ 31000 \\ 6 \times 10 \\ \hline 10 \end{array}$$

III Answer any seven questions in the following.

12. Find a rational number between $\frac{1}{3}$ and $\frac{5}{9}$. $\frac{1}{3} < \frac{1}{2} < \frac{5}{9}$ $\Rightarrow \frac{1}{2} \times \frac{8}{9} \times 2 = \frac{14}{9}$
13. Find the cube root of 27000. $\sqrt[3]{3 \times 10^3} = [3P]$
14. If the length of the arc is 48m and the radius is 10m then find the area of the sector. $A = \frac{\theta r}{2} = \frac{48 \times 10}{2} = 240 \text{ m}^2$
15. Find the number of faces, vertices and edges of a cube and then verify the Euler's formula. $\boxed{F + V - E = 2}$
16. Divide : $-3/13$ by (-3) . $\frac{-3}{13} \times \frac{1}{-3} = \boxed{\frac{1}{13}}$
17. Multiply $(2x + 5y)$ and $(3x - 4y)$. $\Rightarrow 6x^2 + 15xy - 8xy - 20y^2 = [6x^2 + 7xy - 20y^2]$
18. A number when increased by 18% gives 236. Find the number. $A \left[1 + \frac{18}{100}\right] = 236 = A \left[1 + \frac{18}{100}\right]$
19. Find the difference in C.I. (compound Interest) and S.I. (Simple Interest) for $P = \text{Rs. } 5000$, $r = 4\%$, p.a and $n = 2$ years. $P \left[1 + \frac{4}{100}\right]^2 = 5000 \times \frac{1.04}{100} \times \frac{1.04}{100} = \boxed{\text{Rs. } 8}$
20. From the figure find the value of x and y

$\boxed{x = y}$

$x + x + 50^\circ = 180^\circ$

$2x = 180^\circ - 50^\circ$

$x = \frac{130}{2} = 65^\circ$

Sum of three angles of a triangle

$\boxed{x = y = 65^\circ}$

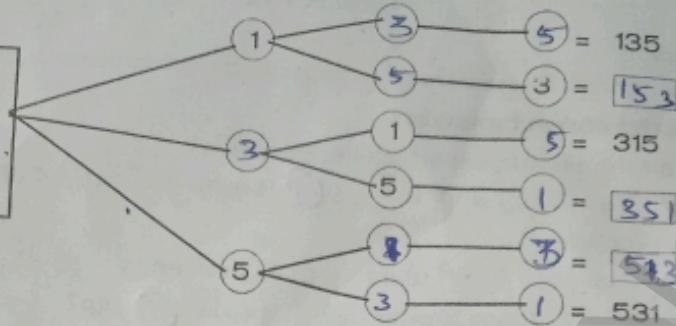
QSM 8 - கணிதம் EM பக்கம் - 1

21. Find the three digit numbers that can be formed using the digits 1, 3 and 5 with repetition of digits. Complete the tree diagram given below to the numbers.

163

8	3		
6	8	9	
6	4		
8	4	8	9
4	8	9	
0			

Using
1, 3
and 5



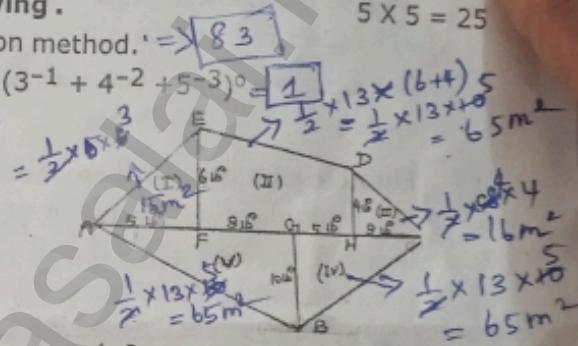
IV Answer any 5 questions from the following .

22. Find the square root of 6889 by long division method. $\sqrt{6889} = 83$ $5 \times 5 = 25$

$$23. \text{Find the value of } (2^{-5} \times 2^7) \div 2^{-2} = 2^{7-(-5)-(-2)} = 2^{14} = 16$$

24. Find the area of an irregular polygon field whose measure are as given in their figure.

$$\textcircled{1} + \textcircled{11} + \textcircled{13} + \textcircled{14} + \textcircled{15} = 226 \text{ m}^2$$



25. Divide : i) $(32y^2 - 8yz) \div 2y$. ii) $(4m^2n^3 + 16m^4n^2 - mn) \div 2mn$.

26. Find the compound Interest (C.I) for the data principal = ₹ 4000, R = 5% p.a, n = 2 years, interest compound annually.

$$A = 4000 \left[1 + \frac{5}{100} \right] = 4000 \times 1.05 = 4200$$

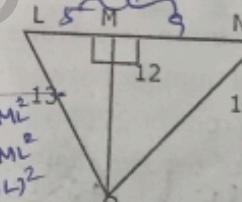
$$A = 4200 \left[1 + \frac{5}{100} \right] = 4410$$

$$A - P = 410$$

27. From the figure find

A. of LON
 $= \frac{1}{2} \times 14 \times 12$
 $= 84$ and the area of $\triangle LON$.

$$\begin{aligned} &\text{G.I.} \\ &(13)^2 - (12)^2 = ML^2 \\ &169 - 144 = ML^2 \\ &25 = ML^2 \\ &ML = 5 \text{ units} \end{aligned}$$



$$\begin{aligned} &MN = 15 \\ &MN^2 = 15^2 - 12^2 \\ &= 225 - 144 \\ &= 81 \\ &MN = 9 \text{ units} \end{aligned}$$

28. If a mattress is marked for ₹ 7500 and is available at two successive discount of 10% and 20%. Find the amount to be paid by the customer.

$$(1 - \frac{10}{100}) \times (1 - \frac{20}{100}) \times 7500 = \frac{90}{100} \times \frac{80}{100} \times 7500 = 5400$$

$$2 \times 5 = 10$$

V Answer the following questions.

29. a) Construct a quadrilateral DEAR with DE = 6 cm, EA = 5 cm, AR = 5.5 cm, RD = 5.2 cm and DA = 10 cm. Also find its area. (OR)

- b) Construct a trapezium CUTE with $\overline{CU} \parallel \overline{ET}$, CU = 7cm, $\angle UCE = 80^\circ$, CE = 6 cm and TE = 5cm.

30. Plot the following points in a graph sheet.

- a) A (5, 2), B (-7, -3), C (-2, 4), D (0, -5), E (7, -4). (OR)

- b) Draw a straight line by joining the points A (-2, 6) and B (4, -3).

QSM 8 - கணிதம் EM பக்கம் - 2