SOFA-I

FORMATIVE ASSESSMENT – THIRD MID TERM

MATHEMATICS

Max. Marks: 50

Std - VIII

Time: 2 Hrs

Name of the School:	**Name of the Student:**
_____	_____
Place:	**Roll No.:**
_____	_____

I. Choose the correct answer: **5 × 1 = 5**

1. 6 men complete work in 10 days. 12 men will complete it in _____ days.
   a) 20 b) 18 c) 5 d) 6
2. x and y are in direct proportion and when x is 12, y is 18. When y is 54, x will be _____.
   a) 36 b) 24 c) 30 d) 28
3. _____ are always in the exterior of an obtuse angle.
   a) Circum center and centroid b) Centroid and orthocenter
   c) Circumference and orthocenter d) Incenter and circumference
4. The three medians of the triangle intersect at the _____.
   a) incenter b) centroid c) orthocenter d) circumference
5. If $\left(\frac{m}{n}\right)^{1-5y} = \left(\frac{n}{m}\right)^{\frac{1}{4}}$ then y =.
   a) 4^{-1} b) 2^{-1} c) 3^{-1} d) 1^{-1}

II. Fill in the blanks: **5 × 1 = 5**

6. The square root of the smallest 3 digit number is _____.
7. The value of $\sqrt{34+\sqrt{1+\sqrt{64}}}$ = _____.
8. $a^m \times a^n$ = _____.
9. To inscribe, a circle in a triangle, you use the _____.
10. The three altitudes of a triangle intersect at the _____.

III. Match the following: **5 × 1 = 5**

11.	a^o	–	a^{m-n}
12.	a^{-m}	–	1
13.	$a^m \div a^n$	–	$\frac{1}{a^m}$
14.	 circle	–	$\frac{1}{2} \times d_1 \times d_2$ sq unit
15.	Area of a rhombus	–	circumference

IV. Answer any 10 questions: **10 × 2 = 20**

16. Simplify: $80 - [22 - \{18 - (7 - 4)\}]$

17. Write the reciprocals of the following:

    a) 15^{-5} b) $\left(\frac{1}{9}\right)^{7}$

18. Express 25^{-4} as a power with base 5.

19. Write the first twenty square numbers.

20. Evaluate the following.

    a) 6^3 b) $(1 \cdot 3)^3$

21. Find the sum of $1^2 + 2^2 + 3^2 + \ldots + 50^2$ using the formula.

22. Convert the speed 90 km / hr to m/s.

23. Find the value of m for which $13^m \div 13^{-12} = 13^{4m}$.

24. Express the following in scientific notation

    a) 934000000000 b) 8291.45

25. Find the square root of 33124 by prime factorization method.

26. Find the greatest 6-digit number that is a perfect square.

27. If 12 men or 15 women can finish a pieace of work in 66 days, how long will 24 men and 3 women take to finish the work?

V. Answer any three of the following: **3 × 5 = 15**

28. Simplify: $\frac{625 \times 3^{-4} \times 10^{-4}}{6^{-4} \times 5^{-2}}$.

29. The diameter of jupiter is 1.39822×10^8 m and the diameter of earth is 1.2742×10^7 m compare the two diameters.

30. Find the square root of 409.6576.

31. Evaluate:

    a) $\sqrt[3]{\frac{3375}{6859}}$ b) $\sqrt[3]{4.913}$

32. Find the cube root of $405 \times 25 \times 18 \times 4$.

33. A train covers 150 km in $2\frac{1}{2}$ hours. If the train continues to run at the same speed, what distance would it cover in 5 hours 10 minutes?

34. A train of 50 m length passes a platform as 100 m length in 10 seconds. What is the speed of the train in km/hour?