ST. XAVIER'S SENIOR SECONDARY SCHOOL, DELHI – 110 054

Class 8 Time : 3 hrs.

10-9-2014 Summative Assessment I in **MATHEMATICS** M. Marks : 90

Section - A (1 x 4 = 4 marks)

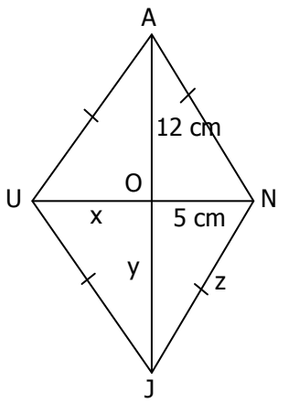
1. How many numbers lie in between the squares of 12 and 13?
2. Express 0.0000000243 in standard form.
3. Name the regular polygon with 4 sides.
4. What is the additive inverse of $\frac{-7}{9}$?

Section - B (2 x 6 = 12 marks)

5. What is the measure of each exterior angle of a regular hexagon?
6. Solve for p, $5p - 3 = 3p - 5$.
7. Find the square root of 1764 by prime factorization method.
8. Simplify $(3^{-7} \div 3^{-10}) \times 3^{-5}$.
9. Find the multiplicative inverse of $1\frac{1}{8}$ and verify the property of multiplicative inverse.
10. Find 2 rational numbers lying between $\frac{1}{4}$ and $\frac{1}{2}$.

Section - C (3 x 10 = 30 marks)

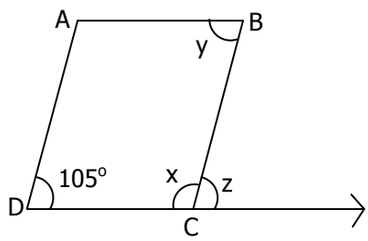
11. Construct a parallelogram ABCD, given that BC = 6cm, CD = 4.5cm and BD=7.5cm.
12. ANJU is a rhombus, find x, y, z.



13. Find the smallest square number that is divisible by each of the numbers 12, 15, and 16 ?
14. Find the cube root of 110592.
15. The denominator of a rational number is greater than its numerator by 7. If the numerator is increased by 10 and the denominator is decreased by 1 the number obtained is $\frac{3}{2}$. Find the rational number.
16. Simplify i) $\left[\left(\frac{1}{3}\right)^{-2} - \left(\frac{1}{2}\right)^{-3}\right] \div \frac{1}{4}^{-2}$.

    ii) Find x, if $(7^{2x-1} \div 49) = 7^3$
17. Represent $\frac{5}{9}$ and $\frac{-5}{4}$ on different number lines.
18. Write a Pythagorean triplet whose one member is 12. Also verify.

19. ABCD is a parallelogram, find x, y, z.



20. Simplify and solve for y
    i) $15(y - 4) + 2(y - 9) + 5(y + 6) = 0$
    ii) $3(5y - 7) - 2(9y - 11) = 4(8y - 13) - 17$

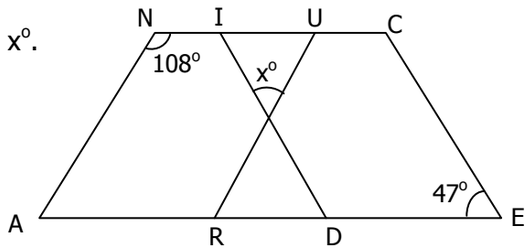
Section - D (4 x 4 = 16 marks)

21. Find the least number that must be added to 7000 so as to get a perfect square. Also find the square root of the perfect square.

22. Arjun is twice as old as Ammu. Five years ago his age was three times Ammu's age. Find their present ages.

23. Solve for x : i) $\frac{7x+4}{x+2} = \frac{-4}{3}$ ii) $\frac{x}{2} - \frac{1}{5} = \frac{x}{3} + \frac{1}{4}$

24. ARUN and DICE are two parallelograms. Find x^o.



25. Construct a rhombus PQRS whose diagonals are PR = 5.2cm and QS = 6.4cm.

26. Construct a quadrilateral ABCD in which AB = 4cm, BC = 5cm, CD= 4.5cm, $\angle B = 60^0$, $\angle C = 90^0$. (Steps required)

27. Verify Euler's formula for a) square prism b) square pyramid

28. Evaluate : i) $\frac{3^{-5} \times 10^{-5} \times 125}{5^{-7} \times 6^{-5}}$

    ii) $\left[(13)^{-1} \times (7)^{-1} \times (21)^{-1}\right]^0$

29. Is 53240 a perfect cube? If not, find the smallest number by which it must be divided to make it a perfect cube. Also, find the cube root of the perfect cube.

30. Name the property in each of the following:
    i) $\frac{1}{2} + \frac{1}{3} = \frac{1}{3} + \frac{1}{2}$ ii) $\frac{1}{4} \times \left(\frac{1}{5} \times \frac{1}{6}\right) = \left(\frac{1}{4} \times \frac{1}{5}\right) \times \frac{1}{6}$

    iii) $-\frac{13}{27} \times 1 = 1 \times \frac{-13}{27} = -\frac{13}{27}$ iv) $\frac{-3}{7} \times \frac{7}{-3} = 1$

31. i) The area of a square plot is 3136 cm^2. Find its side.
    ii) Find the greatest 4 digit number which is a perfect square.

-x-x-x-x-x-x-