

SHRI VIDYASAAGAR MATRIC. HIGH SCHOOL SANKAGIRI.

9489977251, 8344554224, 8344554225

S .MATHESH M.Sc., M.ED., Maths 73 73 55 64 33

X MATHS 5 MARKS PART - I 24-02-2023

- Let $A = \{x \in W | x < 2\}$, $B = \{x \in N | 1 < x \leq 4\}$ and $C = \{3, 5\}$. Verify that $A \times (B \cap C) = (A \times B) \cap (A \times C)$
- If $f(x) = x^2$, $g(x) = 2x$ and $h(x) = x + 4$ Prove that $(f \circ g) \circ h = f \circ (g \circ h)$ in each case.
- The sum of three consecutive terms that are in A.P. is 27 and their product is 288. Find the three terms
- Find the sum to n terms of the series $5 + 55 + 555 + \dots$ terms
- Rekha has 15 square colour papers of sizes 10 cm, 11 cm, 12 cm, ..., 24 cm. How much area can be decorated with these colour papers?
- $x^4 - 8x^3 + mx^2 + nx + 16$ Find the values of m and n if the following polynomials are perfect squares.
- If $A = \begin{bmatrix} 3 & 1 \\ -1 & 2 \end{bmatrix}$ show that $A^2 - 5A + 7I_2 = 0$
- Basic Proportionality Theorem (BPT) or Thales theorem state and prove
- Find the area of the quadrilateral whose vertices are at $(-9, -2)$, $(-8, -4)$, $(2, 2)$ and $(1, -3)$
- Let $A(3, -4)$, $B(9, -4)$, $C(5, -7)$ and $D(7, -7)$. Show that $ABCD$ is a trapezium.
- A toy is in the shape of a cylinder surmounted by a hemisphere. The height of the toy is 25 cm. Find the total surface area of the toy if its common diameter is 12 cm.
- A capsule is in the shape of a cylinder with two hemispheres stuck to each of its ends. If the length of the entire capsule is 12 mm and the diameter of the capsule is 3 mm, how much medicine can it hold?
- Two dice are rolled together. Find the probability of getting a doublet or sum of faces as 4.
- Two unbiased dice are rolled once. Find the probability of getting
 - a doublet (equal numbers on both dice)
 - the product as a prime number
 - the sum as a prime number
 - the sum as 1
- Find the equation of a straight line through the point of intersection of the lines $8x + 3y = 18$, $4x + 5y = 9$ and bisecting the line segment joining the points $(5, -4)$ and $(-7, 6)$.