

ST. MICHAEL'S SCHOOL, MURI

(Affiliated to C.B.S.E., New Delhi)

SYLLABUS CUM HOME ASSIGNMENT 2020 -21 FOR CLASS – IX

SUB : MATHS

HOME ASSIGNMENT OF STD - IX

PERIODIC TEST – I

Chapter – 1 (NUMBER SYSTEM)

- Find rational numbers between two rational numbers (Get questions from NCERT)
- Construct square root spiral (From $\sqrt{2}$ to $\sqrt{12}$)

Chapter – 2 (POLYNOMIALS)

- Factorize the polynomials by splitting the middle term method.

PERIODIC TEST – II

Chapter – 3 (CO ORDINATE GEOMETRY)

Chapter – 4 (LINEAR EQUATION IN TWO VARIABLE)

Eg. Find the rational number lying between $\frac{1}{3}$ and $\frac{1}{2}$.

Solution: Let $x = \frac{1}{3}$ and $y = \frac{1}{2}$. Then, clearly $x < y$.

A rational number lying between x and y

$$= \frac{1}{(x + y)}$$

$$= \frac{1}{2} \left(\frac{1}{3} + \frac{1}{2} \right) = \left(\frac{1}{2} \times \frac{5}{6} \right) = \frac{5}{12}$$

Hence, $\frac{5}{12}$ is a rational number numbers lying between $\frac{1}{3}$ and $\frac{1}{2}$.

Eg. Factorize $x^2 - 4x - 21$.

Solution: The given expression is $x^2 - 4x - 21$

We try to split -4 into two parts whose sum is -4 and product -21.

Clearly, $(-7) + 3 = -4$ and $(-7) \times 3 = -21$.

$$\therefore x^2 - 4x - 21 = x^2 - 7x + 3x - 21$$

$$= x(x - 7) + 3(x - 7)$$

$$= (x - 7)(x + 3)$$

Hence, $x^2 - 4x - 21 = (x - 7)(x + 3)$.

CASE 2

Polynomials of the form $ax^2 + bx + c$.

In this case, we find integers p and q such that $p + q = b$ and $pq = ac$.

Then, $ax^2 + bx + c = ax^2 + (p + q)x + pq/a$

$$= a^2x^2 + apx + aqx + pq$$

$$= ax(ax + p) + q(ax + p)$$

$$= (ax + p)(ax + q).$$

Hence, $(ax^2 + bx + c) = (ax + p)(ax + q)$.
