

Pre-Content/content Post-Content	Learning outcomes/Objectives	
	General	Specific
<u>Pre-Content</u> Knowledge about polynomials	Students will be able to recall and define polynomials and the related terms	Students will be able to • <u>define and explain</u> polynomial and the terms related to it, which they have learnt in the previous class
<u>Content</u> Geometrical meaning of the zeros of a polynomial	identify the zeroes of a polynomial	• <u>observe and analyse</u> the graph and <u>identify</u> the number of zeroes of a polynomial where it intersects the X-axis.
Relationship between coefficients and zeros of a polynomials	to relate coefficients of a polynomial with its zeroes	• <u>observe</u> the polynomial and write the coefficients • <u>calculate</u> the zeroes of a quadratic polynomial by splitting the middle term • <u>relate</u> the coefficients with the zeroes of the polynomial
Division algorithm for polynomials	divide a polynomial by another polynomial	• <u>divide</u> a given polynomial with another polynomial using division algorithm
Factorize a quadratic polynomial	factorize a quadratic polynomial	• <u>factorize</u> a quadratic polynomial geometrically
<u>Post-content</u> • To work out extra practice questions	to apply the knowledge learnt related to polynomials and to solve HOTS questions	• apply the concept learnt to solve various problems • acquire Problem solving based on the given equations and condition

Home Work /Assignments

NCERT exercise/solved examples given as home task.

Questions from sample papers to solve.

Selected questions from NCERT Exemplar.

Teacher's Activity	Student's Activity	Teacher's observation and Remedial
Teacher will ask certain questions that will help students to recall the concept already learnt ask students to identify the zeros from the graph explain the questions and give them related questions to solve explain the concept and give them related problems conduct an activity and give them few problems to solve using the concept learnt through the activity(Annexure 2) give them extra similar questions to solve	Students will answer the questions as per their previous knowledge analyse the graphs solve the questions given in the exercise solve the questions given in the exercise perform the activity and solve the related problems(Annexure 2) apply the concept and solve the given practice questions	Teacher will write his/her observations after the completion of the topic.

Teaching Aids: Smart board, Text book, Graph paper, Worksheets, Internet

Methodology/Innovative methods: Digital technology, Interactive, Lecturing, Note giving, Questioning, Discussion

Interdisciplinary Links: Robotics, Statistics, Mathematical biology

ACTIVITY NO - 2

Subject	Mathematics
Class	X
Chapter/Unit	Polynomials
Topic	Zeroes of a polynomial
Time	20 minutes
Nature of Activity	Individual

What will I learn (Learning Outcome)?

Geometrical meaning of zeroes of a Quadratic polynomial

Skills: Applying, Analyzing and Creating

What I have to do?

To obtain the zeroes of a Quadratic polynomial $-2x^2 + 4x$ geometrically.

What do I require?

Graph sheet, geometry box

What do I need to know?

Plotting of points on a Cartesian plane

➤ **Teacher's Activity**

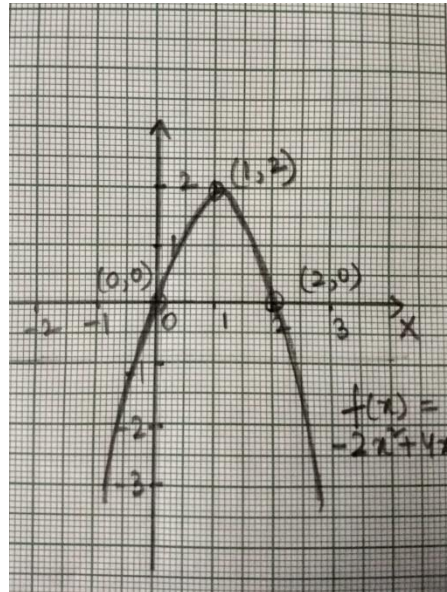
Teacher will revise the definition of a polynomial, value of a polynomial at a point, plotting of points on a Cartesian plane.

How will I proceed?➤ **Student's Activity**

- 1) Consider a Quadratic polynomial $p(x) = -2x^2 + 4x$.
- 2) Calculate the value of the polynomial $p(x)$ for at least 4 different values of x .
- 3) Plot these values on the Cartesian plane taking $p(x)$ along Y axis.
- 4) Observe the points at which the graph of $p(x)$ intersects the X-axis.

What have I observed?

- 1) No. of points at which the graph of $p(x)$ intersects X-axis = No. of zeroes of $p(x)$ = _____
- 2) Zeroes of $p(x)$ = _____ and _____



What have I learnt?

Zeroes of $p(x)$ are _____ and _____ found out geometrically.

What am I curious to learn?

Obtain the zeroes of a Quadratic polynomial $y = x^2 - 3x - 4$ geometrically.

Let me evaluate myself

- 1) Find the zeroes of $y = 6x^2 - 3 - 7x$ geometrically and verify it by the method of splitting of middle term.

- 2) Find the zeroes of polynomial $2x^2 - x - 6$ and verify the relationship between the zeroes and coefficients.

- 3) If the zeroes of the polynomial $x^2 - px + q$ are double in value to the zeroes of $2x^2 - 5x - 3$, find the value of p and q .
