

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.

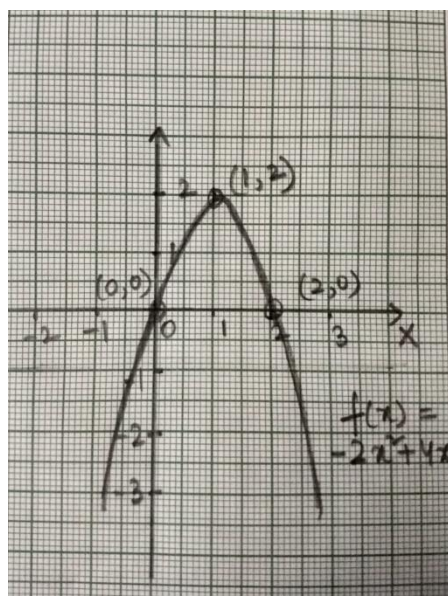
How will I proceed?

➤ 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 $p(x) = \underline{\hspace{2cm}}$
- 2) Zeroes of $p(x) = \underline{\hspace{2cm}}$ and $\underline{\hspace{2cm}}$



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.
