Gurukrupa College of Education & Research, Kalyan

Name of Student Teacher: Venissa William Colaco

Class   : IXth

Subject: Mathematics

Topic   : Polynomial: Value Of A Polynomial

_____

_____

Previous Knowledge: Linear equations, Quadratic equations, Cubic equations

Learning Objectives: KNOWLEDGE: The pupil acquire knowledge on concept of value of a polynomial.

UNDERSTANDING: The pupil develops an understanding on the concept of value of a polynomial.

APPLICATION: The pupil applies his knowledge and understanding in new familiar situations. The pupil develops skill in practical aspect of maths.

Statement of Aim: So today we shall learn about Polynomial.

Core Elements: Inculcation of scientific temper

Core Values: Scientific temper

Learning Resources/ Teacher's Tool Box: PPT, PAPER, PEN.

Content/ Sub-Points	Teacher's Activity	Student's Activity
Revision about Polynomial	Teacher explains basic concepts of polynomial and uses past skills of students. Teacher asks what are the coefficients, terms, expression in the polynomials	Students answers

Value Of A Polynomial	First teacher explains what is polynomial.
	Then teacher explains students the value of a polynomial with the example.
	In a polynomial if variable is replaced by a number then we get the value of that polynomial.
	Eg: $x + 7$
	Teacher explains that if we replace the value of x by 2 we get,
	$= 2 + 7$
	$= 9$
	Here 9 is nothing but value of polynomial.
	
	If p(x) is a polynomial in x then the value of the polynomial for x $= a$ is written as p (a).
	The teacher gives examples to understand the above statement.
	  1) Find the value of the polynomial
	    $p(x) = 2x^2 - 3x + 5$ for $x = 2$
	Solution: $p(x) = 2x^2 - 3x + 5$
	Put $x = 2$ in the given polynomial
	$p(2) = 2 \times (2)^2 - 3 \times 2 + 5$
	$= 2 \times 4 - 6 + 5$
	$= 8 - 1$
	$= 7$
	$p(2) = 7$
	  2) If $p(x) = 2x^2 - x^3 + x + 2$ then find p(0).
	Solution: $p(x) = 2x^2 - x^3 + x + 2$
	$= 2 \times (0)^2 - (0)^3 + 0 + 2$
	$= 2 \times 0 - 0 + 0 + 2$
	$= 0 - 0 + 0 + 2$
	$= 2$
	$P(0) = 2.$
		Pupil understands and note down
		
		Students note down and solve

Content/ Sub-Points	Teacher's Activity	Student's Activity
PRACTICE SET	The teacher then solves practice set 1) For x = 0 find the value of the polynomial $x^2 – 5x + 5$ Solution: $p(x) = x^2 – 5x + 5$ Put x = 0 in above in polynomial $$p(0) = (0)^2 – 5 \times 0 + 5$$ $$= 0 – 0 + 5$$ $$= 5$$ $$p(0) = 5$$ 2) If $p(m) = m^3 + 2m^2 – m + 10$ then $p(a) + p(-a) = ?$ Solution: $p(m) = m^3 + 2m^2 – m + 10$ $p(a) = (a)^3 + 2 \times (a)^2 – (a) + 10$ $= a^3 + 2a^2 – a + 10$ ……(1) Now, for p(-a) $p(m) = m^3 + 2m^2 – m + 10$ $p(-a) = (-a)^3 + 2 \times (-a)^2 – (-a) + 10$ $= -a^3 + 2 \times a^2 + a + 10$ $= -a^3 + 2a^2 + a + 10$ $= -a^3 + 2a^2 + a + 10$ …..(2) We have to find $p(a) + p(-a)$ $= a^3 + 2a^2 – a + 10 + (-a)^3 + 2a^2 + a + 10$ (from 1 & 2) $= 2a^2 + 10 + 2a^2 + 10$ $= 4a^2 + 20$ $p(a) + p(-a) = 4a^2 + 20$	Students note down and solve
PRACTICE SET		

Assessment:

1) If $p(y) = 2y^3 - 6y^2 - 5y + 7$ then find p(2).
2) If $p(m) = 2m^2 - 3m + 10$ then find p(5)

Assignment : 1) If the value of the polynomial $m^2 - am + 7$ for m = -1 is 10, then find the value of a.

2) Find the value of the polynomial $p(x) = x^4 - 3x^2 - 8$ for x = -4

Blackboard Writing

Std.: IXth   **Date: _____**

Subject : Mathematics

Topic   : POLYNOMIAL

_____

1) **Find the value of the polynomial $p(x) = 2x^2 - 3x + 5$ for x = 2**
   Solution: $p(x) = 2x^2 - 3x + 5$
      Put x = 2 in the given polynomial
            $p(2) = 2 \times (2)^2 - 3 \times 2 + 5$
                  $= 2 \times 4 - 6 + 5$
                  $= 8 - 1$
                  $= 7$

2) **For x = 0 find the value the polynomial $x^2 - 5x + 5$**
      Solution: $p(x) = x^2 - 5x + 5$
      Put x = 0 in above in polynomial
            $p(0) = (0)^2 - 5 \times 0 + 5$
                  $= 0 - 0 + 5$
                  $= 5$
      $p(0) = 5$
      $3x^3 + 9x^2 - 2x - 7$

Observers Remarks: _____

_____

_____

_____

   Sign of Guide   **Sign of Observer**