National Institute of Open Schooling (NIOS)
Secondary Course
Lesson – 03: Algebraic Expressions and Polynomials
Worksheet-03

1. Write any three algebraic expressions having 2, 3 and 4 terms respectively.

2. Write general form of a polynomial in one variable. Give three examples of Binomial.

3. Identify which of the following algebraic expressions are polynomials, give reasons.

   (i) $\frac{1}{2}x^2 + 3\,xy$

   (ii) $4x^{-3} + 2y + 5$

   (iii) $y^2 + \frac{1}{y} + 6$

4. Evaluate the following polynomials.

   (i) $5x^2 + 3x - 7, when\ x = \frac{1}{2}$

   (ii) $3x^2 - 7x + 120, when\ x = 2$

5. Write any two polynomials having three terms such that their sum is $12x^2 - 8y + 14x$.

6. Find a value of x if it is a zero of the polynomial $x^2 - 3x + 6$.

7. Write a polynomial of degree two and then multiply it with any one binomial.

8. Find the product of the following polynomials.

   (i) $(2x - 3)$ and $(x^2 + x + 1)$

   (ii) $(x + 1)$ and $(x^2 + 5x\ 3)$

9. Express the following word statements as algebraic statements using variables and operation symbols.

   (i)   The product of three consecutive even numbers is eighty five.

   (ii)   The difference between one fifth of a number and half of the number is twenty one.

   (iii) Four times a number when added to its square gives thirty five.

10. Find the product of any two polynomials of degree 2, and write your observation.