Class 10 Mathematics - Polynomials

Name: _____

Date: _____

Advanced Worksheet 4

Questions

1. For the polynomial:
   $x^3 - 6x^2 + 11x - 6$
   find:
   (a) Sum of zeroes
   (b) Sum of products of zeroes taken two at a time
   (c) Product of zeroes
2. For the polynomial:
   $x^3 + 3x^2 - 4x - 12$
   find:
   (a) Sum of zeroes
   (b) Sum of products of zeroes taken two at a time
   (c) Product of zeroes
3. State the relationship between zeroes and coefficients for:
   $ax^3 + bx^2 + cx + d$
4. Without finding the zeroes, determine:
   (a) Sum of zeroes
   (b) Sum of products of zeroes taken two at a time
   (c) Product of zeroes

for:

$2x^3 - 7x^2 + 4x + 5$

5. A cubic polynomial has sum of zeroes 5, sum of products of zeroes taken two at a time 6, and product of zeroes 2. Form the polynomial.
6. What is the maximum number of zeroes of a cubic polynomial?

Answer Key

1.

For $x^3 - 6x^2 + 11x - 6$

Sum of zeroes = 6

Sum of products taken two at a time = 11

Product of zeroes = 6

2.

For $x^3 + 3x^2 - 4x - 12$

Sum of zeroes = -3

Sum of products taken two at a time = -4

Product of zeroes = 12

3.

For $ax^3 + bx^2 + cx + d$

Sum of zeroes = -b/a

Sum of products of zeroes taken two at a time = c/a

Product of zeroes = -d/a

4.

For $2x^3 - 7x^2 + 4x + 5$

Sum of zeroes = 7/2

Sum of products taken two at a time = 2

Product of zeroes = -5/2

5.

Polynomial

$= x^3 - 5x^2 + 6x - 2$

6. Three