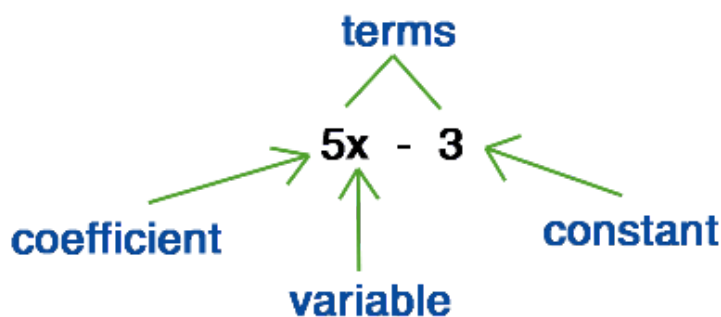


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## NCERT Class 9 Mathematics Solutions: Chapter 9 – Algebraic Expressions and Identities Exercise 9.1 Part 1

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**Question: 1** Identify the terms, their coefficients for each of the following expression:

(i)  $5xyz^2 - 3zy$

(ii)  $1 + x + x^2$

(iii)  $4x^2y^2 - 4x^2y^2z^2 + z^2$

(iv)  $3 - pq + qr - rp$

(v)  $\frac{x}{2} + \frac{y}{2} - xy$

(vi)  $0.3a - 0.6ab + 0.5b$

**Answer:**

**(i)** Term:  $5xyz^2 - 3zy$

Coefficient of  $5xyz^2$  is 5 and

Coefficient of  $3zy$  is 3

**(ii)** Term:  $1 + x + x^2$

Coefficient of 1 is 1 and

Coefficient of  $x$  and coefficient of  $x^2$  is 1

**(iii)** Term:  $4x^2y^2$ ,  $-4x^2y^2z^2$  and  $z^2$

Coefficient of  $4x^2y^2$  is 4,

Coefficient of  $-4x^2y^2z^2$  is -4 and

Coefficient of  $z^2$  is 1.

**(iv)** Terms: 3, -pq, qr and -rp

Coefficient of 3 is 3,

Coefficient of -pq is -1,

Coefficient of qr is 1 and

Coefficient of -rp is -1

**(v)** Terms:  $\frac{x}{y}$ ,  $\frac{y}{2}$  and  $-xy$

Coefficient of  $\frac{x}{y}$  is  $\frac{1}{y}$ ,

Coefficient of  $\frac{y}{2}$  is  $\frac{1}{2}$  and

Coefficient of  $-xy$  is -1

**(vi)** Terms: 0.3a, -0.6ab and 0.5b

Coefficient of 0.3a is 0.3,

Coefficient of -0.6ab is -0.6 and

Coefficient of 0.5b is 0.5

**Question: 2** Classify the following polynomials as monomials, binomials, trinomials. Which polynomials do not fit in any of these three categories.

$$x + y, 1000, x + x^2 + x^3 + x^4, 7 + y + 5x, 2y - 3y^2, 2y - 3y^2 + 4y^3, 5x - 4y + 3xy, 4z - 15z^2, ab + bc + cd + da, pqr, p^2q + pq^2, 2p + 2q$$

**Answer:**

(i)  $x + y$  contains two terms. Therefore it is binomial.

(ii) 1000 contains one term. Therefore it is monomial.

(iii)  $x + x^2 + x^3 + x^4$  contains four terms. Therefore it is a polynomial and it does not fit in above three categories.

(iv)  $7 + y + 5x$  contains three terms. Therefore it is trinomial.

(v)  $2y - 3y^2$  contains two terms. Therefore it is binomial

(vi)  $2y - 3y^2 + 4y^3$  contains three terms. Therefore it is trinomial.

(vii)  $5x - 4y + 3xy$  contains three terms. Therefore it is trinomial.

(viii)  $4z - 15z^2$  contains two terms. Therefore it is binomial.

(ix)  $ab + bc + cd + da$  contains four terms. Therefore it is a polynomial and it does not fit in above three categories.

(x)  $pqr$  contains one term, Therefore it is monomial.

(xi)  $p^2q + pq^2$  contains two terms. Therefore it is binomial.

(xii)  $2p + 2q$  contains two terms. Therefore it is binomial.