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(Affiliated to CBSE up to +2 Level)

CLASS: VIII

SUB.: MATHS

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Algebraic Expressions

1. Identify the terms, their coefficients for each of the following expressions:

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

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

In the expression $5xyz^2 - 3zy$, the terms are $5xyz^2$ and $-3zy$.

coefficient of xyz^2 in the term $5xyz^2$ is 5.

coefficient of zy in the term $-3zy$ is -3 .

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

$x + y, 1000, x + x^2 + x^3 + x^4, 7 + y + 5x,$

$2y - 3y^2, 2y - 3y^2 + 4y^3, 5x - 4y + 3xy,$

$4z - 15z^2,$

$ab + bc + cd + da, pqr, p^2q + pq^2, 2p + 2q.$

3. Add the following:

(i) $ab - bc, bc - ca, ca - ab$

(ii) $a - b + ab, b - c + bc, c - a + ac$

(iii) $2p^2q^2 - 3pq + 4, 5 + 7pq - 3p^2q^2$

(iv) $l^2 + m^2, m^2 + n^2, n^2 + l^2, 2lm + 2mn + 2nl$

4. (a) Subtract $4a - 7ab + 3b + 12$

from $12a - 9ab + 5b - 3$

(b) Subtract $3xy + 5yz - 7zx$

from $5xy - 2yz - 2zx + 10xyz$

(c) Subtract $4p^2q - 3pq + 5pq^2 - 8p + 7q - 10$

from $18 - 3p - 11q + 5pq - 2pq^2 + 5p^2q.$