

NCERT SOLUTIONS CLASS-8 MATHS

CHAPTER-9 EXERCISE-9.1

Q.1. Identify the terms and their coefficients for each of the following expressions.

(I) $5abc^2 - 3cb$

Terms : $5abc^2$

$3cb$

Coefficients: 5, -3

(II) $1+a+a^2$

Terms: 1, a, a^2

Coefficients: 1, 1, 1

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

Terms: $4x^2y^2$, $-4x^2y^2z^2$, z^2

Coefficient: 4, -4, 1

(IV) $3 - xy + yz - zx$

Terms: 3: -xy, yz, -zx

Coefficient: 3: -1, 1, -1

(V) $\frac{a}{2} + \frac{b}{2} - ab$

Terms: $\frac{a}{2}$, $\frac{b}{2}$, -ab

Coefficient: $\frac{1}{2}$, $\frac{1}{2}$, -1

(VI) $0.3x - 0.6xy + 0.5y$

Terms: $0.3x$, $-0.6xy$, $0.5y$

Coefficient: 0.3, -0.6, 0.5

Q.2. Check whether the following polynomials are monomials, binomials or trinomials. Find out which polynomials do not fit any of these three categories?

1) $x+y$,

2) 1000,

3) $x + x^2 + x^3 + x^4$,

4) $7+y+5x$,

5) $2y - 3y^2$,

6) $2y - 3y^2 + 4y^3$,

7) $5x-4y+3xy$,

8) $4z - 15z^2$,

...

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9) $ab+bc+cd+da$,

10) pqr ,

11) $p^2q + pq^2$,

12) $2p+2q$,

Answer:

Monomials: 1000, pqr

Binomials: $x+y$, $2y - 3y^2$, $4z - 15z^2$, $p^2q + pq^2$, $2p+2q$

Trinomials: $7+y+5x$, $2y - 3y^2 + 4y^3$, $5x-4y+3xy$

Polynomials that do not fit any of these categories are :

$$x + x^2 + x^3 + x^4, ab+bc+cd+da$$

Q.3.Add the following :

Note: The given expressions written in separate rows, with like terms one below the other and then the addition of these expressions are done.

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

$$ab-bc$$

$$+ bc-ca$$

$$+ -ab+ca$$

$$= 0$$

(II) $x - y+xy, y-z+yz, z-x+xz$

$$x - y + xy$$

$$+ y -z+yz$$

$$+ -x+z +xz$$

$$= xy+yz+xz$$

(III) $2a^2b^2 - 3ab + 45 + 7ab - 3a^2b^2$

$$2a^2b^2 - 3ab + 4$$

$$+ -3a^2b^2 + 7ab + 5$$

$$-a^2b^2 + 4ab + 9$$

(IV) $a^2 + b^2, b^2 + c^2, c^2 + a^2, 2ab + 2bc + 2ca$

$$a^2 + b^2$$

$$+ b^2 + c^2$$

$$+ c^2 + a^2$$

$$+ 2ab + 2bc + 2ca$$

$$+ \angle AD + \angle DC + \angle CA$$

$$= 2a^2 + 2b^2 + 2c^2 + 2ab + 2bc + 2ca$$

Q.4. (i) Subtract $4x - 7xy + 3y + 12$ from $12x - 9xy + 5y - 3$

Answer:

$$12x - 9xy + 5y - 3$$

$$4x - 7xy + 3y + 12$$

$$(-) \quad (+) \quad (-) \quad (-)$$

$$8x - 2xy + 2y - 15$$

(ii) Subtract $3xy + 5yz - 7zx$ from $5xy - 2yz - 2zx + 10xyz$

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

$$3xy + 5yz - 7zx$$

$$(-) \quad (-) \quad (+)$$

$$2xy - 7yz + 5zx + 10xyz$$

(iii) Subtract $4p^2q - 3pq + 5pq^2 - 8p + 7q - 10$ from $18 - 3p + 11q + 5pq - 2pq^2 + 5p^2q$

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

$$-10 - 8p + 7q - 3pq + 5pq^2 + 4p^2q$$

$$(+) \quad (+) \quad (-) \quad (+) \quad (-) \quad (-)$$

$$28 + 5p - 18q + 8pq - 7pq^2 + p^2q$$

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