

## EXERCISE 6.1

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

**(i)**  $7x^2yz - 5xy$

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

**(iii)**  $3x^2y^2 - 5x^2y^2z^2 + z^2$

**(iv)**  $9 - ab + bc - ca$

**(v)**  $a/2 + b/2 - ab$

**(vi)**  $0.2x - 0.3xy + 0.5y$

**Solution:**

**(i)**  $7x^2yz - 5xy$

The given equation has two terms that are:

$7x^2yz$  and  $-5xy$

The coefficient of  $7x^2yz$  is 7The coefficient of  $-5xy$  is  $-5$ 

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

The given equation has three terms that are:

$x^2$ ,  $x$ ,  $1$

The coefficient of  $x^2$  is 1The coefficient of  $x$  is 1The coefficient of  $1$  is 1

**(iii)**  $3x^2y^2 - 5x^2y^2z^2 + z^2$

The given equation has three terms that are:

$3x^2y^2$ ,  $-5x^2y^2z^2$  and  $z^2$

The coefficient of  $3x^2y^2$  is 3The coefficient of  $-5x^2y^2z^2$  is  $-5$ The coefficient of  $z^2$  is 1

**(iv)**  $9 - ab + bc - ca$

The given equation has four terms that are:

$9$ ,  $-ab$ ,  $bc$ ,  $-ca$

The coefficient of  $9$  is 9The coefficient of  $-ab$  is  $-1$ The coefficient of  $bc$  is 1The coefficient of  $-ca$  is  $-1$

(v)  $a/2 + b/2 - ab$

The given equation has three terms that are:

$a/2, b/2, -ab$

The coefficient of  $a/2$  is  $1/2$

The coefficient of  $b/2$  is  $1/2$

The coefficient of  $-ab$  is  $-1$

(vi)  $0.2x - 0.3xy + 0.5y$

The given equation has three terms that are:

$0.2x, -0.3xy, 0.5y$

The coefficient of  $0.2x$  is  $0.2$

The coefficient of  $-0.3xy$  is  $-0.3$

The coefficient of  $0.5y$  is  $0.5$

**2. Classify the following polynomials as monomials, binomials, trinomials. Which polynomials do not fit in any category?**

(i)  $x+y$

(ii)  $1000$

(iii)  $x+x^2+x^3+x^4$

(iv)  $7+a+5b$

(v)  $2b-3b^2$

(vi)  $2y-3y^2+4y^3$

(vii)  $5x-4y+3x$

(viii)  $4a-15a^2$

(ix)  $xy+yz+zt+tx$

(x)  $pqr$

(xi)  $p^2q+pq^2$

(xii)  $2p+2q$

**Solution:**

(i)  $x+y$

The given expression contains two terms  $x$  and  $y$

∴ It is Binomial

(ii)  $1000$

The given expression contains one term  $1000$

∴ It is Monomial

(iii)  $x+x^2+x^3+x^4$

The given expression contains four terms

∴ It belongs to none of the categories

**(iv)**  $7+a+5b$

The given expression contains three terms

∴ It is Trinomial

**(v)**  $2b-3b^2$

The given expression contains two terms

∴ It is Binomial

**(vi)**  $2y-3y^2+4y^3$

The given expression contains three terms

∴ It is Trinomial

**(vii)**  $5x-4y+3x$

The given expression contains three terms

∴ It is Trinomial

**(viii)**  $4a-15a^2$

The given expression contains two terms

∴ It is Binomial

**(ix)**  $xy + yz + zt + tx$

The given expression contains four terms

∴ It belongs to none of the categories

**(x)**  $pqr$

The given expression contains one term

∴ It is Monomial

**(xi)**  $p^2q+pq^2$

The given expression contains two terms

∴ It is Binomial

**(xii)**  $2p+2q$

The given expression contains two terms

∴ It is Binomial