

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 Monomial