POLYNOMIALS

TYPES OF POLYNOMIALS

EXERCISE

Q.1 State whether the following statements are true or false:

(i) Expression $5a^2 + a$ is a trinomial

(ii) Expression $ax^2 + bx + c$ is a trinomial

(iii) $5 \times mn$ is a binomial

(iv) $11 + xy$ is a binomial

(v) $a^3 - 3ab + 7a + 9$ is a polynomial

(vi) $2x^3 + 7xy + 3x + 2$ is a multinomial

(vii) $1 + 2x + 3x^2 + x^4 + x^5$ is a binomial

(viii) $p^2 + q^2 + r^2$ is a trinomial

Q.2 For each expression, given below, state whether it is a monomial, binomial or trinomial:

(i) mn (ii) $mn + m$

(iii) $2a \div b$ (iv) $7abc$

(v) $7 + u + v$ (vi) $2p^2 - p$

(vii) $-k$ (viii) $ax^2 + bx - 7$

(ix) $-3mn + t$ (x) $1 + a + z$

(xi) $1 + a \div z$ (xii) $a + ab - b^2$

Q.3 Identify the following expressions are monomials, binomials, trinomials, polynomials:

(i) $11pqr$ (ii) $m + 2n$

(iii) $a + b + c$ (iv) $1 - m + m^2 + m^5 - m^7 + m^9$

(v) $2ab + c$ (vi) $1 + 3a + 4a^3$

Q.4 From the list of polynomials find the types of polynomials that have a degree of 2 and above 2 and name them.

(i) $x + 7$

(ii) $x^2 + 3x + 2$

(iii) $z^3 + 2xz + 4$

Q.5 Mention the types of polynomials.

(i) $n^3 + 6$

(ii) $5x^2 + 2xy + 1$

(iii) $p - 8^2$

(iv) $2p^2 + q - 11$

(v) 34

Q. 6 What type of polynomial is $3x^3 - 5x^2 + 3x + 2$?

ANSWER KEY

1. (i) false (ii) true

(iii) false (iv) true

(v) true (vi) true

(vii) false (viii) true

2. (i) monomial (ii) binomial

(iii) monomial (iv) monomial

(v) trinomial (vi) binomial

(vii) monomial (viii) trinomial

(ix) binomial (x) trinomial

(xi) binomial (xii) trinomial

3. (i) monomial (ii) binomial

(iii) trinomial (iv) polynomial

(v) binomial (vi) trinomial

4. (ii) and (iii) have degrees 2 or greater than 2. (ii) is a quadratic polynomial and (iii) is a cubic polynomial.

5. We classify the given polynomials with respect to their degree and the number of terms. n^3+6 is a binomial cubic polynomial as the highest exponent (degree of polynomial) with the variable is 3 and there are 2 terms in the polynomial.
$5x^2-2xy+1$ is a trinomial quadratic polynomial as the degree is 2 and there are 3 terms in the polynomial.
$p-8^2$ is a binomial linear polynomial as the degree of the polynomial is 1 and there

are 2 terms in the polynomial.

$2p^2+q-11$ is a trinomial quadratic polynomial. The degree of the polynomial is 2 and there are 3 terms present in it.

34 is a monomial zero polynomial as the degree of the polynomial is 0 and there is a single term in the polynomial.

6. Cubic polynomial.