

Q1. Write 5 expressions which are not polynomials. Justify your answers.

Q2. Give examples of the polynomials

- a) Cubic and binomial
- b) Cubic and monomial
- c) Quadratic and trinomial
- d) Quadratic and monomial
- e) Linear and binomial
- f) Linear and monomial

Q3. For the polynomial $p(x) = 5x^3 - 3x^2 + 2x + \sqrt{2}$, mark the statements as true or false and justify.

- a) The degree of polynomial $p(x)$ is 4.
- b) The degree of polynomial $p(x)$ is 3.
- c) The coefficient of x^2 is 3.
- d) The coefficient of x is 2
- e) The constant term is 3
- f) The number of terms is 4

Q4. Justify the following statements with examples:

- a) We can have a trinomial having degree 7.
- b) The degree of a binomial cannot be more than two.
- c) There is only one term of degree one in a monomial.
- d) A cubic polynomial always has degree three.

Q5. Complete the entries $P(x) = 5x^7 - 6x^5 + 7x - 6$

Coefficient of x^5 =

Degree of $P(x)$ =

Constant term =

Number of terms =

Q6. If $P(x) = x^4 + 2x^3 - 10x^2 - 14x + 21$, then find $P(1)$, $P(-1)$ and $P(\frac{1}{2})$.

Q7. Find the zeroes of the following polynomials:

- a) $P(x) = 3x - 5$
- b) $P(x) = 2x + 7$

Q8. Check whether -2 and 2 are the zeroes of the polynomial $x^4 - 16$.

Q9. Give examples to justify the following statements:

- a) A zero of a polynomial need not be 0.
- b) 0 may be a zero of a polynomial.
- c) Every linear polynomial has one and only one zero.
- d) A polynomial can have more than one zero.