Zeroes of a Polynomial

If p(x) is a polynomial, then the number 'a' will be the zero of the polynomials with p(a) = 0. We can find the zero of the polynomials by **equating it to zero**.

Zeroes of a Polynomial: The value of variable for which the polynomial becomes zero is called as the zeroes of the polynomial.

For Example: Consider p(x) = x + 2. Find zeroes of this polynomial.
(i) If we put x = -2 in p(x), we get,
(ii) p(-2) = -2 + 2 = 0.
(iii) Thus, -2 is a zero of the polynomial p(x).

Number of Zeros:

a. A linear Polynomial has one zero.
b. A quadratic Polynomial has at most two zeros.
c. A cubic polynomial has at most three zeros.

Examples:

1. Find value of polynomial $3a^2 + 5a + 1$ at a = 3.

2. Check whether at x = -1/7 is zero of the polynomial p(x) = 7x + 1.

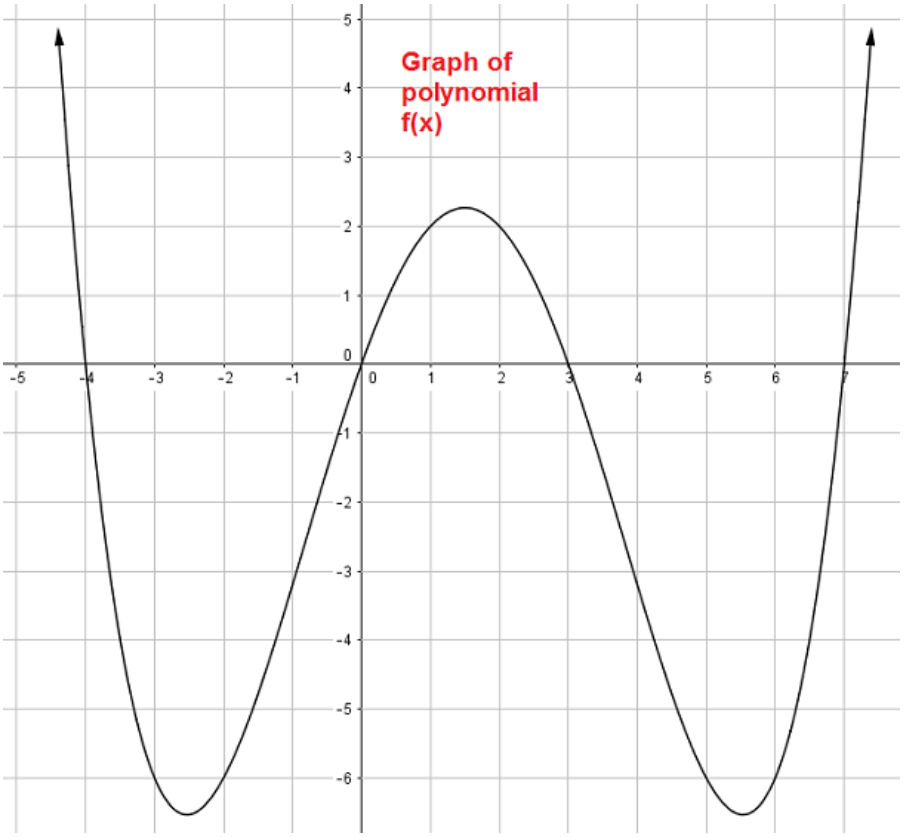
3. Find zero of the polynomial p(x) = 2x+ 2.

4. The value of the polynomial $7x^4 + 3x^2 - 4$, when x = - 2 is:

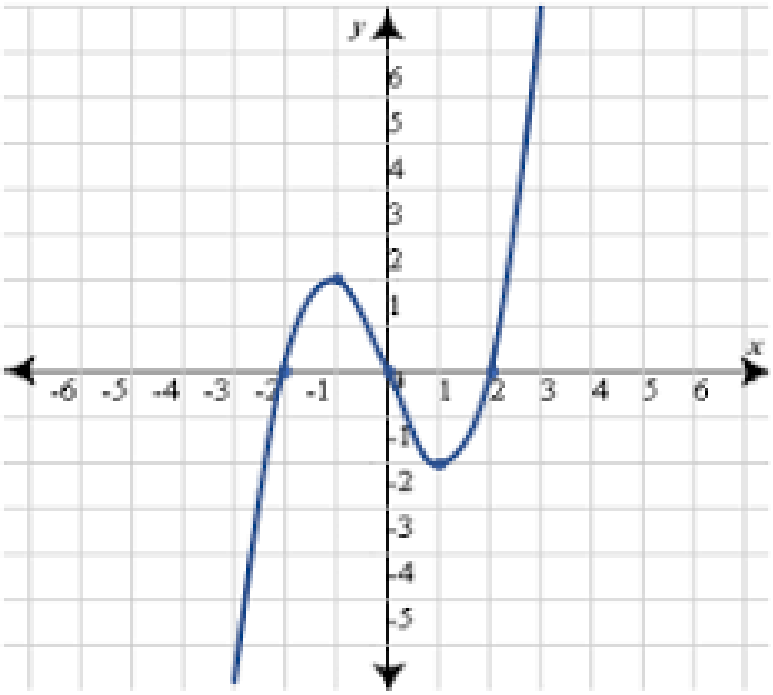
5. The zero of the polynomial p(x) = -9x + 9is:

6. What are the zeros of the polynomials in the given figures?

a.



b.



c.