Polynomials

Write 3 different quadratic, cubic and 2 linear polynomials with different number of terms.Write 3 different quadratic, cubic and 2 linear polynomials with different number of terms.

Write the general form of a quadratic polynomial and a cubic polynomial in variable x.

Write a general polynomial $q(z)$ of degree n with coefficients that are b_0, b_1, b_2, ... b_n. What are the conditions on b_0, b_1, b_2, ... b_n?

If $p(x) = x^2 - 5x - 6$, then find the values of $p(1)$, $p(2)$, $p(3)$, $p(0)$, $p(-1)$, $p(-2)$, $p(-3)$.

If $p(m) = m^2 - 3m + 1$, then find the value of $p(1)$ and $p(-1)$.

Let $p(x) = x^2 - 4x + 3$. Find the value of $p(0)$, $p(1)$, $p(2)$, $p(3)$ and obtain zeroes of the polynomial $p(x)$.

Check whether -3 and 3 are the zeroes of the polynomial $x^2 - 9$.

In $p(x) = 5x^7 - 6x^5 + 7x-6$, what is the
(i) coefficient of x^5 (ii) degree of $p(x)$ (iii) constant term.

If $p(t) = t^3 - 1$, find the values of $p(1)$, $p(-1)$, $p(0)$, $p(2)$, $p(-2)$.

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

Check whether 3 and -2 are the zeroes of the polynomial $p(x)$ when $p(x) = x^2 - x - 6$.

Draw the graph of (i) $y = 2x + 5$, (ii) $y = 2x - 5$, (iii) $y = 2x$ and find the point of intersection on X-axis. Is the x-coordinate of these points also the zeroes of the polynomial?

Draw the graphs of (i) $y = x^2 - x - 6$ (ii) $y = 6 - x - x^2$ and find zeroes in each case. What do you notice?

Write three quadratic polynomials that have 2 zeroes each.

Write one quadratic polynomial that has one zero.

How will you verify if a quadratic polynomial has only one zero?

Write three quadratic polynomials that have no zeroes

Find the zeroes of cubic polynomials (i) $- x^3$ (ii) $x^2 - x^3$ (iii) $x^3 - 5x^2 + 6x$ without drawing the graph of the polynomial.

Find the number of zeroes of the given polynomials. And also find their values.
(i) $p(x) = 2x + 1$ (ii) $q(y) = y^2 - 1$ (iii) $r(z) = z^3$

Find the zeroes of the given polynomials.
(i) $p(x) = 3x$ (ii) $p(x) = x^2 + 5x + 6$
(iii) $p(x) = (x+2) (x+3)$ (iv) $p(x) = x^4 - 16$