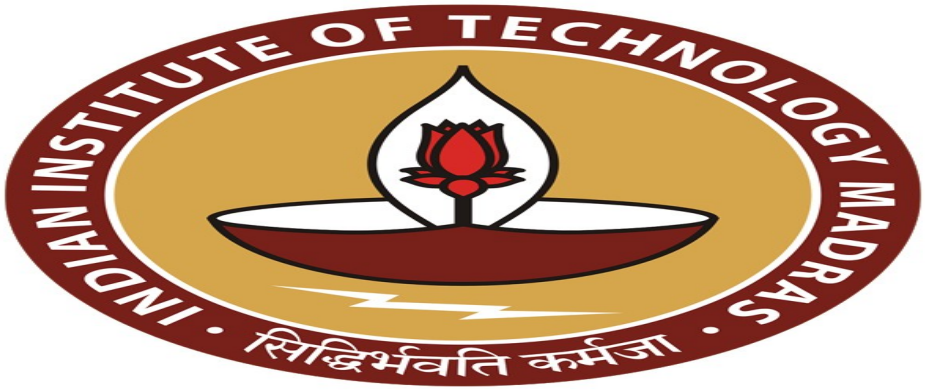


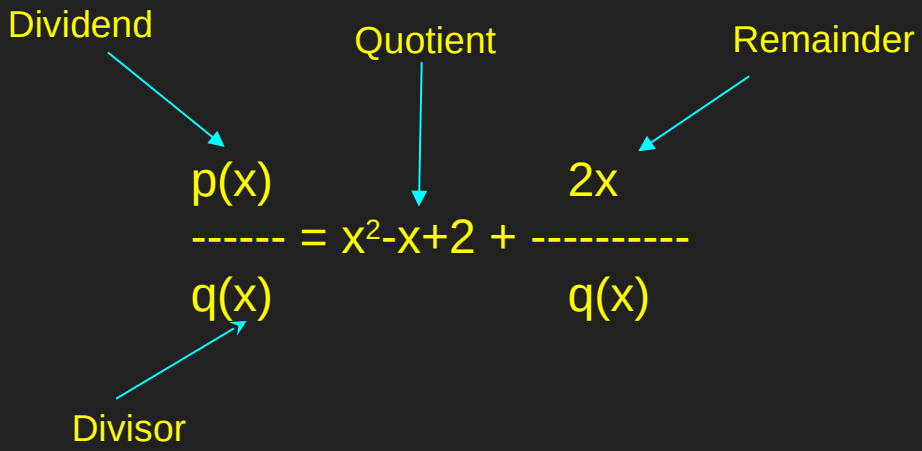
IIT Madras

ONLINE DEGREE

Division of Polynomials

$$\frac{3x^2+4x+1}{x+1} = (3x+1)$$

Divide $p(x) = x^4+2x^2+3x+2$ by $q(x)=x^2+x+1$.



Division of Polynomials

Find $\frac{2x^3+3x^2+1}{2x+1} = x^2+x-\frac{1}{2} + 3/2/(2x+1)$

Division Algorithm

Step 1. Arrange the terms in descending order of the degree and add the missing exponents with 0 as coefficient.

Step 2. Divide the first term of the dividend by the first term of the divisor and get the monomial

Step 3. Multiply the monomial with divisor and subtract the result from the dividend.

Step 4.Check if the resultant polynomial has degree less than divisor.If true, write the remainder else Go to Step 2.