



IIT Madras
ONLINE DEGREE

Division of Polynomials

Division of a polynomial by a monomial

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

Division of a polynomial by another polynomial

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

Division of Polynomials

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

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

Diagram illustrating the division of $p(x)$ by $q(x)$:

Dividend: $p(x)$

Quotient: x^2-x+2

Remainder: $2x$

Divisor: $q(x)$

$$\frac{p(x)}{q(x)} = x^2-x+2 + \frac{2x}{q(x)}$$