Differential Equations - Important Topics

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Linear Differential Equations of Higher Order

A linear differential equation of order n with constant coefficients is of the form:
an D^n y + a(n-1) D^(n-1) y + ... + a1 Dy + a0 y = f(x).

Euler’s Linear Equation

An Euler equation is a differential equation of the form:
x^n d^n y/dx^n + a(n-1) x^(n-1) d^(n-1) y/dx^(n-1) + ... + a1 x dy/dx + a_0 y = 0.

Method of Variation of Parameters

A technique used to solve nonhomogeneous differential equations by expressing the solution in terms of variable coefficients instead of constants.