

Section 5.1

A second order differential equation

A linear second order derivative

$$A(x)y'' + B(x)y' + C(x)y = F(x)$$

$$y'' - 3y' = 0, y_1 = 1, y_2 = e^{3x}, y(0) = 4, y'(0) = -2$$

Wronskian determinant

$$f(x) = \sin^2 x \quad g(x) = 1 - \cos(2x)$$

Distinct Real Roots

$$y'' + 2y' - 15y = 0$$

$$9y'' - 12y' + 4y = 0$$