Linear, 2<sup>nd</sup> order, non-homogeneous differential equation with constant coefficients.

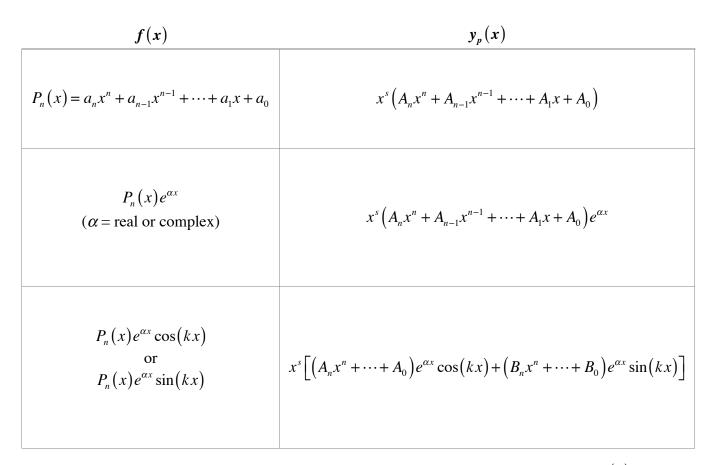
$$a \frac{d^2 y(x)}{dx^2} + b \frac{dy(x)}{dx} + c y(x) = f(x)$$

The solutions are given by:

$$y(x) = y_p(x) + y_c(x)$$

where  $y_c(x) \equiv$  complementary solution to the homogeneous equation.

To find  $y_p(x)$ , we guess at a solution. The guess we make will depend on f(x).



Here s is the smallest nonnegative integer (s = 0, 1, 2) which will insure that no term in  $y_p(x)$  is a solution of the corresponding homogeneous equation.