HOMEWORK #6 (Chapter 3 Exercises--- Variation of Parameters, Cauchy-Euler Equation)

Due on Nov. 16

1) Solve the given differential equation by variation of parameters.

$y'' - y = \cosh(x)$ (page 136, Problem 7)

Solve the given differential equations.

2) $x^2y'' + 5xy' + 4y = 0$ (page 141, Problem 11)

3) $3x^2y'' + 6xy' + y = 0$ (page 141, Problem 13)

4) Solve the given differential equation by variation of parameters.

$x^2y'' - xy' + y = 2x$ (page 141, Problem 21)

5) Solve the given initial-value problem.

$xy'' + y' = x,\ \ y(1) = 1,\ \ y'(1) = -\frac{1}{2}$ (page 142, Problem 27)

6) Solve the given initial-value problem on the interval $(-\infty, 0)$.

$4x^2y'' + y = 0,\ \ y(-1) = 2,\ \ y'(-1) = 4$ (page 142, Problem 37)