Homework #6   Math 527, UNH fall 2015
Due Thursday, October 15th in recitation

Same instructions as usual regarding writing your name, section number, etc.

Problems 1-6. Find the general solution of the differential equation using judicious guessing. The "prime" notation indicates differentiation with respect to x or t, whichever appears on the right-hand-side.

1. $y'' + 3y = x^3 - 1$

2. $y'' + 4y' + 4y = te^{2t}$

3. $y'' + 2y' + y = e^{-t}$

4. $y'' + 4y = t \sin 2t$

5. $y'' - 2y' + 5y = 2 \cos^2 x$

6. $y'' + y' - 6y = \sin t + te^{2t}$

Problem 7. Solve the initial value problem

$$y'' - y = \cosh x; \quad y(0) = 2, \ y'(0) = 12$$