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## **PROBLEM SET**

Problem Set on Undetermined Coefficients

Math 3350, Spring 2004

March 9, 2004

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Good luck!

Here are some practice problems on doing undetermined coefficients with the shifting rule.

**Problem 1.** In each part, find the general solution of the given differential equation.

A.  $(D^2 - 5D + 6)y = x^2$ .

B.  $(D^3 + 2D^2)y = x^2$ .

C.  $(D^2 - 5D + 6)y = x^2 e^{4x}$ .

D.  $(D^2 - 5D + 6)y = x^2 e^{2x}$ .

E.  $(D^2 - 5D + 6)y = x^2 e^x \sin(2x)$ .

F.  $(D^2 - 2D + 5)y = x^2 e^x \cos(2x)$

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