

# Assignment Set 1, G63.2470, Spring 2009

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**The following assignments are due on February 11 at midnight.**

Solve the following equations:

1.  $(t^2 - 1)x' + 2tx^2 = 0$ ,  $x(0) = 1$
2.  $2t^2xx' + x^2 = 2$
3.  $x' - tx^2 = 2tx$
4.  $x' = 10^{t+x}$
5.  $x' = \cos(x - t)$
6.  $x^2 + t^2x' = txx'$
7.  $tx' = x - te^{x/t}$
8.  $tx' = x \cos(\log(x/t))$
9.  $t^3(x' - t) = x^2$
10.  $x' = x^2 - 2/t^2$