Homework Problems on the Green Function Method
Fall 2009, Math 246, Professor David Levermore

1. Compute the Green functions associated with the following differential operators L.
   
   a) \( L = D^2 + 8D - 20 \)
   b) \( L = D^2 + 8D + 20 \)
   c) \( L = D^4 + 13D^2 + 36 \)

2. Use the Green function method to find a general solution of the following equations.

   a) \( D^2y - Dy - 2y = \frac{1}{e^t + 1} \)
   b) \( D^2y + y = \tan(t) \)
   c) \( D^2y + y = \frac{1}{16 + 9 \cos(t)^2} \)