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**Math 2150, Fall 2005, Quiz 9**  
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1. Find the values of  $b$  for which  $y'' + by' + 4y = 0$  is underdamped.
2. How many times does the solution to the initial value problem  $y'' + 5y' + 4y = 0$ ,  $y(0) = 1$ ,  $y'(0) = -7$ , cross  $y = 0$  for  $t > 0$ ?