Math 54: Problem Set 10

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This problem set is due **August 8, 2019, 11:59 PM**. You may collaborate with other students in the class on this problem set, but your solutions must be own, and you should write up the solutions by yourself. Some of the problems below may be challenging, so start early, and feel free to come to office hours or ask questions on Piazza if you need help.

Textbook Problems

These questions are from Nagle, Saff, and Snider.

- **Section 4.2:** 6, 10, 18
- **Section 4.3:** 10, 16, 22
- **Section 4.4:** 18, 20
- **Section 4.5:** 18, 22
- **Section 4.6:** 2, 6, 8, 18

Additional Problems

Problem 1

Find all real values of b such that all solutions to the homogeneous ordinary differential equation

$$y'' + by' + 4y = 0$$

have the property that $\lim_{x \to \infty} y(x) = 0$.