

MATH 342 SECTION 33650
WRITTEN HOMEWORK 7
DUE MAY 16, 2016.

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Required textbook problems (hand these in):

- (1) §6.5: 2, 6, 10.
- (2) §6.7: 4, 6, 8, 25.
- (3) §6.8: 5, 6, 8, 9.

Suggested practice (don't hand these in):

- Please read and make sure you can do the practice problems in Sections 6.5, 6.7, and 6.8.
- If you are interested in a field that involves data (e.g., economics), read Section 6.6 and solve some of its exercises.
- Use Exercise 6.5.17 and 6.5.18 for review.
- If you had trouble or got help with any of the assigned problems, solve another, similar problem (or two).

Bonus points. Sage, as usual. For this week:

- (1) Work through the entry “Least-squares, Fourier series”.
- (2) Try our `numerical_fourier` function on $f(x) = x$. Plot a few of the results. You should see that it converges very slowly. This is because the function $f(x) = x$ is not really periodic, i.e., the values at $-\pi$ and π do not match.

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