Physics 360/Math 360 MWF 11:00 - 11:50 PM, Room: CST 225

Instructor: Michael Lerner, CST 213, Phone: 765-983-1784

Assignment 6, Due Monday March 27th

1 Fourier Transforms

Boas §7.12 #4, 9, 13
You may do #10 and #19 for extra credit.

2 Deltas

Boas section 8.11 number 20 (only need to verify 11.19 parts d and e) and number 21.

3 Convolution

Pick two functions of your own choice, calculate the convolution, graph both functions and the convolution, explain whether it makes sense graphically.

3.1 Computational

It's been a while since we did a computer exercise. My mistake! We can use python to calculate gradients (and people often do). Google around a bit and figure out at least one function that might do that.

You might find the numpy builtin function (`https://docs.scipy.org/doc/numpy/reference/generated/numpy.gradient.html`). You might find another one.

Turn in a Jupyter notebook where you reproduce the example from the documentation, explain what was calculated, and then do a similar calculation (e.g. plug in some different values or some different function), and explain if the result is what you expected.