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Assignment 7, Due Monday April 3rd

0.1   Directional Derivative and Gradient

Boas §6.6 # 1, 2, 5

0.2   Line Integrals – Due Monday when you return

Boas §6.8 (Line integrals) # 1, 6, 8

0.3   Finishing our in-class problem - part 1

We evaluated a line integral around several paths in class. Finish the parts we did not do in class. MAKE SURE TO DO THIS BEFORE CLASS ON MONDAY!

1   The wave equation

Argue that the wave equation[1] is a reasonable physical model for waves. You may make this argument for 1D, 2D, or 3D waves. Does it seem reasonable for both longitudinal and transverse waves? You may use the book, the internet, or whatever resources you'd like, but make sure to *cite your sources*.

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[1] What is the wave equation? Look in Boas Ch. 13, or on the internet!