

MATH 574
Homework 1
Due Tuesday January 30

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“You must learn by doing the thing— for though you think you know it you have no certainty until you try.”

Sophocles

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From page 65 of the textbook, please do:

Problem 2.2.1a and f.

Problem 2.2.3.

Problem 2.2.4.

On page 66 please do:

Problem 2.3.1.

Problem 2.4.1.

On page 96 please do:

Problem 3.1.5, 3.1.7, and 3.1.12.

Hint for problem 3.1.12. Try to think of both \mathbf{x} and μ as dependent variables. What would the equation for μ be? Apply the general theorem on the existence and uniqueness of solutions (and their smooth dependence on initial conditions) to this new system of equations.