MATH 561
Homework 4
Due Friday October 26

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"We have therefore the equation of condition

$$F(x) = \int dq Q \cos qx$$

If we substituted for Q and function of q, and conducted the integration from $q = 0$ to $q = \infty$, we should find a function of x: It is required to solve the inverse problem, that is to say, to ascertain what function of q, after being substituted for Q, gives as a result the function $F(x)$, a remarkable problem whose solution demands attentive examination."

J. Fourier

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page 90: Problems 1, 2, and 3.

page 97: Problem 1

page 98: Problem 4.

page 108: Problems 2, 3, 8, and 9.

page 113: Problems 1 and 7.