MATH 260 — HOMEWORK 9.

due on Friday, March 23.

by Tom M. Apostol

Topics:
• Chapter 10. Line Integrals
  – 10.6 The concept of work as a line integral
  – 10.7 Line integrals with respect to arc length
  – 10.8 Further applications of line integrals.
  – 10.10 Open connected sets
  – 10.11 The second fundamental theorem of calculus for line integrals
  – 10.12 Applications to mechanics
  – 10.14 The first fundamental theorem of calculus for line integrals
  – 10.15 Necessary and sufficient conditions for a vector field to be a gradient
  – 10.16 Necessary conditions for a vector field to be a gradient
  – 10.17 Special methods for constructing potential functions

Ninth Homework Assignment.

Reading:
• Read Sections 10.6 to 10.17.

Problems: Make sure you can do all the Problems in Section 10.5, but write up (only) the following problems to be handed in:
(1) Section 10.9 (page 331): 4, 7.
(2) Section 10.13 (page 336): 1, 2, 3.
(3) Section 10.18 (page 345): 1, 3, 5, 11, 14.