MATH 151 Homework 17
Due 3/25

Read Sections 4.1 to 4.3.

Do Section 4.1 Exercises 3, 4, 8, 32, 36, 46, 48, 55, 67
Do Section 4.2 Exercises 7, 11, 15, 23, 32
Do Section 4.3 Exercise 6, 9

Also, do the following exercises.

SF41. A warehouse selling cement has to decide how often and how much to reorder. It is
cheaper, on average, to place large orders to reduce the cost per unit. However, larger
orders mean higher storage costs. The warehouse always reorders cement in the same
quantity, q. The total weekly cost, C, of ordering and storage is given by

$$C = \frac{a}{q} + bq,$$

where a and b are positive constants.

(a) Which of the terms a/q and bq represents the ordering cost and which represents
the storage cost? Why?

(b) What value of q gives the minimum total cost?