Follow the separate general guidelines for Parts A,B,C. Be sure to include and label *all four* standard parts (a), (b), (c), (d) of Part A in what you hand in.

What is a function?
Section 3.1.1

A: Reading questions. Due by 3pm, Wed., 18 Sep.

1. Give an explicit example of a function where neither the domain nor range consists of numbers. What is the domain, codomain, and range of your function?

2. What is the difference between the codomain and range of a function?

3. What are the different ways, described by the textbook, of representing a function? Which of these depends on the domain and codomain being numbers?

4. Many students know of the "vertical line test" to "test" for a function. [In case you don't know it: If every vertical line intersects a graph in at most one point, then the graph represents a function.] Relate the "vertical line test" to the definition of function on page 70. Why does this definition agree with the "vertical line test"? One might rephrase this question: "Where is the vertical line in the textbook's definition?"

5. What is the difference between a **function**, a **formula**, an **equation**, and an **expression**?

6. Give two examples of a sequence. In your first example, describe the sequence directly (not recursively), and in your second example, describe the sequence recursively.

B: Warmup exercises. For you to present in class. Due by end of class Thu., 19 Sep.

3.1.1 Problems: 2abc, 3ab, 6, 7

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Problem analysis: from equations to functions
Section 3.1.2

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A: Reading questions. Due by 3pm, Mon., 23 Sep.

Note that there are many fewer reading questions here. Instead, spend more time getting ready for the warmup exercises in part B. Also, for this section only, please do not read the whole section before answering the reading questions. Answer the reading questions as they arise in the text (this will be clear as soon as you see the text and the reading questions).

1. The first approach to the problem in this section includes 3 questions, which each start "Before reading on". Follow these directions carefully; answer the questions before reading on, and record your answers. After you read on, you may note (perhaps with different color pen or pencil, or by comments after your answers) how the textbook answer differs from yours.

2. As soon as you see Figure 8, identify all the "interesting" points in this graph, and describe their relation to the initial problem. Again, after you write your answer, read on, and compare your answer to what the textbook has to say about the figure.

B: Warmup exercises. For you to present in class. Due by the end of class Tue., 24 Sep.

3.1.2 Problems: 1, 3, 6