Read pp 1-14. This should all be review. Be prepared to answer questions on those pages. The following HW is a small sampling of the material in pp 1-14. It should get you started thinking about it. I'll be glad to answer questions about this material but if I think you should know it, I'll ask you to come to my office hours rather than use class time.

Read pp 15-18 and be sure you are clear on all aspects of that material. This material is especially important as we definitely will use it.

## The following directions will always apply to TF questions. I may not repeat these instructions each time.

For all TF questions, if you answer True, give a reason or theorem. If you answer false give a counterexample.

E.g. 1. TF All triangles are right triangles. Ans. False 60-60-60 is a triangle with no right angles.

E.g. 2. TF Two right triangles are congruent if the pairs of sides adjacent to the right angle are equal. Ans. True, we can use the postulate on side, angle, side to prove congruence.

- 1. TF All 1-1 functions are injective.
- 2. TF All 1-1 functions are onto.
- 3. TF  $A \cap B \subset A$
- 4. Let  $f : A \rightarrow B$  and  $g : B \rightarrow C$  be maps.
  - a. If  $g \circ f$  is one-to-one, show that f is one-to-one.
  - b. TF If f is 1-1, then g o f is 1-1.
  - c. TF If g is 1-1, then  $g \circ f$  is 1-1
- 5. Let A={1,2,3} B=N= {1,2,3,...}
  - a. Write all the elements of A X A
  - b. Describe in set notation the elements of A **x** B.
  - c. TF A  $\mathbf{X}$  A  $\subset$  A  $\mathbf{x}$  B.