HOMEWORK GUIDELINES

• Homework should be typed or neatly hand-written and stapled.

• Write proofs using complete sentences and proper spelling, punctuation, and grammar. Write legibly, and leave plenty of space between problems. (If a problem takes up more than half of a page, leave the rest of the page blank.)

• Make it clear where each proof starts and ends. Start a proof with Proof: and end it with either Q.E.D. or the black square ■.

• In most cases, your first draft of a problem will not be sufficient. Much like other writing courses, you may need to write a second or third draft to get a proof that is clear, concise, and presentable. Start on scratch paper and leave time to write up a final draft of each problem.

• If you introduce a variable, state clearly what it represents (a real number, an integer, a polynomial, etc.) and any properties you are assuming. For example,
  
  – Suppose \( n \) is an even integer.
  – Let \( x_1 \) and \( x_2 \) be real numbers such that \( x_1 < x_2 \).

• Use the following terms correctly.
  
  – *e.g.* means *for example* (exempli gratia in Latin) and should be followed by a comma.
  – *i.e.* means *that is* or *in other words* (id est in Latin) and should be followed by a comma.
  – The words *thus*, *hence*, *therefore*, *so*, and *then* introduce a logical conclusion. The statement that follows one of these words should be a direct consequence of the preceding line of logic.
  – The words *since* and *because* should precede statements that are assumed or have been proven TRUE.

• In general, the proofs and explanations in lecture and in the textbook provide good models for your writing. If you write something that looks completely different, stylistically, from what you see in lecture or in our textbook, you might want to reconsider how you wrote it.

• If you’re typing, use italics for letters used as variables or representing mathematical symbols. For example, this is standard: “Let \( a \) be an element of the set \( E \).” “Let \( a \) be an element of the set \( E \),” is not as good. (Using italics also helps to distinguish the word “a” from the variable or element “\( a \).”)

• Write in the present tense and, when needed, use first-person plural pronouns (*we, us, our*), as if you and the reader are working together. For example, you might write “Next, we square both sides to obtain...” This is a mathematical convention that may seem awkward at first, but you’ll get used to it.