Writing Proofs

**Forward Proof**

1. **Establish hypotheses**: show how the statement's info satisfies the hypotheses of the theorem.
2. **Connect hypotheses to conclusion**: work to turn the hypotheses into the conclusion. The connection may be obvious and little work is needed.
3. **Conclude**: state the conclusion and state the name of the theorem if the theorem has a special name (like Sandwich, IVT, MVT).

**Proof by Contradiction**

1. Establish hypotheses.
2. Write: "Assume the conclusion is false."
3. Make a precise statement that contradicts the conclusion.
4. Work until arriving at a statement that contradicts a hypothesis.
5. Write: "We have contradicted the hypothesis."
6. Write: "The only way to undo the contradiction is to accept the conclusion as true."