

Proof Writing Guidelines

1. You need to prove your assertions. If you are asked to count the number of edges in a graph, you must give the count **and** justify the count. If you are asked to construct an example, you must describe its construction and demonstrate that it satisfies the necessary requirements.

2. Use precise technical language.

For example, instead of referring to vertices as having “connections” say that the vertices are “adjacent”. Be wary of making up your own secret lingo.

3. Be wary of “it”, “that”, “this” as mechanisms to refer to previous parts of your argument.

4. Leave lots of space between problems for my comments.

5. Always include the problem statement.

6. Always begin a sentence with a word in English, never with a symbol.

For example, the sentence “ $d(x) > k$ by definition.” is bad. Change it to: “By definition, $d(x) > k$.”

7. Do not replace words with symbolic logic.

For example, do not write “ $x > y$ and $y > 0 \implies x^2 > y^2$.” Instead write, “Since $x > y > 0$, it follows that $x^2 > y^2$.”

Another example, do not write “We know that $|S| >$ the number of vertices in the largest component of G .” Instead, write “... $|S|$ is greater than ...”