



## NO. 34 IN THE WRITING CENTER HANDOUT SERIES

### Writing in Math is Integral (I)

*Writing in math? Wait a second...isn't math about numbers and stuff? Writing is as important in math as it is in any other discipline. Symbols are the tools mathematicians use to describe ideas, but words are necessary to explain the context and to interpret the results of a problem in real-world terms that anyone with sufficient background could easily understand.*

Stick with the general conventions of writing.

Use the same writing skills you would use in any other discipline. Write in complete sentences and paragraphs. Avoid vagueness, and do not use more words than necessary. Beware of using the wrong word or incorrect grammar; make sure you are accurately describing the situation at hand. Most important of all, writing in mathematics requires use of the *language of mathematics*. You will need to mix narrative with computation and with formulas, for example. Note how the author of your math text moves from explanation in words to development in mathematical symbols. Both approaches are essential to good writing about mathematical problems.

Introduce the problem.

Solving a mathematical problem requires that you first restate the problem, then state your objective. What are you trying to do? For example, "Our objective is to find the height of the building." Restating the problem and stating the objective combine to form your opening paragraph. Clarify your assumptions and constraints, and specify units of the variables and numbers you are using.

Explain your approach.

No two people need approach a mathematical problem in the same way. Make sure that you explain adequately to an intelligent reader which approach you are taking, so there is no confusion.

Introduce each variable.

Describe each variable as precisely as possible. Use mathematical symbols freely. For example, "x equals height" is unnecessary and incomplete; "x = height of the building in meters" is better. The reader needs to know both what the variables mean and the units in which they are measured.

Label all visual aids.

Label diagrams, tables, graphs, etc. If you are using a graph, make sure that you have labeled your axes correctly, including units of measure. Readers will not be able to understand your aids unless they have all the necessary information.

Organize.

Your writing should have a logical flow, allowing your reader to follow you as you solve the problem. Remember, you have stated your objective, so you know where you are going! Write your solution to the problem in the same way you would answer it mathematically: step by step, goal in sight.

Solve the problem.

Do not just solve the problem mathematically. Restate your answer in words so that someone less familiar with the situation could understand your solution. Make sure your solution really does answer your objective. This is your closing paragraph. Here, try to use broader, real-world terms if possible. For example, rather than just writing "x = 27," you should clarify your answer by writing, "The height of the building is 27 meters." The distinction seems small; however, there is a difference between knowing the answer and understanding what it means.

Check Spelling, Grammar, and Punctuation.

Writing in any discipline should be clear and easily understood. Be sure to double-check spelling, grammar, and punctuation, and correct any mistakes. After all, it is a math assignment, where precision is paramount!

For more information on writing in math, see

*A Guide to Writing Mathematics*, Dr. Kevin P. Lee