Writing in Math is Integral (∫)

No. 54 in the Writing Center Handout Series

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. Numbers are the tools mathematicians use to describe the world, but words are necessary to explain the problem and to interpret its results in real-world terms that any nonmathematician could easily understand.

Use General Writing Skills

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. Especially beware of using the wrong word; make sure you are accurately describing the situation at hand.

Introduce the Problem

Similar to writing in other disciplines, writing for math requires that you clearly present the problem. First, restate the problem. Explain the problem so that even someone who knows little about the subject would understand. Second, be sure to state any assumptions that underlie the formulas you are using to solve the problem. Are you assuming a number is constant or a function is continuous? Your reader needs to be aware of such assumptions as they affect the outcome of your work. Finally, always make sure to SPECIFY UNITS both in the problem and in your answer. The answer is not correct without the correct measurements.

Explain Your Approach

No two people will approach a mathematics problem in the same way. Make sure that you thoroughly explain to the reader which approach you are taking, so there is no confusion.

Introduce Each Variable

Describe each variable as precisely as possible. For example, "x equals height," but if you know that x also equals 5, then write, "x, height, equals 5 centimeters." The reader needs to know both what the variables mean and that you understand the variables.

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. The readers cannot read your aids until they have the information with which to understand them.

Organize

Your writing should have a logical flow, allowing your reader to follow you as you solve the problem. Write your solution to the problem in the same way you would answer it mathematically: step by step. Begin with the problem itself, and explain each step of your work until you reach the final solution.

Solve the Problem

Do not just solve the problem mathematically. Explain your answer in words so that someone less familiar with the situation could understand your solution. Also, try to use broader, real world terms if possible. For example, rather than just writing, "The answer is 5," you should clarify your answer by writing, "The height of the building is 5 centimeters." 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 for any mistakes, even if it is "just a math assignment."

For more information on writing in math, see

A Guide to Writing Mathematics by Dr. Kevin P. Lee
http://www.math.iupui.edu/writing_in_math/guide.html#sec3
http://www.indiana.edu/~wts/cwp/lib/wacmath.html

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