

Paragraph Assignment, Week 4
Due Thursday, 2/10/00 at the start of lab.

The Definition of the Sine Function

Write a paragraph describing the definition of the function $\sin \theta$, as follows. First describe the definition of $\sin \theta$ using right triangles in the case when θ is an acute angle. Then use the unit circle to define $\sin \theta$ for any angle θ . Finally, explain why these two definitions are the same when θ is an acute angle.

Various instructions, warnings, and notes:

1. Pay attention to the following instructions. You will lose many points for violating them.
2. Do not include any pictures or sketches with your paragraph. You must describe in words, not in pictures, what the definition of $\sin \theta$ is.
3. Do not choose a particular angle θ , even as an example, in your paragraph.
4. When defining $\sin \theta$ using the unit circle, just give the definition; do not attempt to explain how one might calculate the actual value of $\sin \theta$.
5. The mathematical concepts involved in this paragraph are very simple. Do not try to make your paragraph sound fancy; write it so that it is as clear and simple as possible.
6. Because this paragraph assignment is relatively simple, we expect you to concentrate heavily on the style and clarity of your writing. Each sentence will be graded for mathematical accuracy as well as clarity and brevity. Try reading each of your sentences out loud; do they really make sense? Would you ever say a sentence like that?!
7. There is no need to write an introduction and a conclusion to the problem. Don't pad your paragraph with fluff like: "In conclusion, the function $\sin \theta$ is very important and easy to calculate." Just answer the questions above – no more, no less.
8. You may write your paragraph as three very short paragraphs, each responding to one of the three questions outlined in the description of the paragraph above. However, your final product should still be as short and as brief as possible (I did it in 334 words).
9. The paragraph must be jointly written by all members of your lab group. "Switching off" who writes the weekly paragraph is considered academic dishonesty and will be punished as such. Your lab group should meet to discuss the problem, write a draft, pick apart every sentence, rewrite as necessary, and proofread until the paragraph is to everyone's liking and understanding.