

MAT 301 Writing Assignment #1

Due Date: March 1st, Monday

Do not use MAPLE features to *calculate* anything. You have to perform all calculations manually.

Please answer the questions and *explain*. Answering questions is only a small part of what this assignment is about. The emphasis will be put on your explanation. If you answer with no explanation, then you will get a very low score.

Remember that you are explaining your answers not to me, but to your peers (imagine yourself as an author of a textbook).

Problems:

(Clearly mark each answer so that it is clear which problem the solution is for.)

1. Is the limit of $f(x)$ as x approaches c always equal to $f(c)$? (Here, assume the limit exists.) Why or why not? Explain and give an example to support your answer.

2. Write a description of the meaning of the notation

$$\lim_{x \rightarrow 7} f(x) = 25$$

and give an example of such function.

3. Determine whether the statement is true or false. Explain why.

$$\lim_{x \rightarrow \pi} \frac{\sin x}{x} = 1$$

4. Give an example of two functions that agree at all but one point. How are such functions useful in finding limits?
5. (Mandatory but minimally graded) Rank various aspects of your life such as family, friends, independence, religion, creativity, and other aspects of your life in order of importance. Then, write a half-page (typed, 12-point font) essay on the most important thing in your life. For this question only, please type your essay.