

1077-N5-2456

**Paul M. Musial\*** (pmusial@csu.edu), Chicago State University, Department of Mathematics and Computer Sci., 9501 South King Drive, Chicago, IL 60628. *Using Illustrations to Motivate Definitions and Proofs in Real Analysis.*

Many of the concepts in Real Analysis, e.g., limits and differentiation, are relatively easy to grasp intuitively, but have abstract definitions. In addition, the proofs associated with these concepts are frequently difficult to visualize. The expert in Real Analysis often has a mental image of the concept in his/her head. One challenge to the teacher of Real Analysis is to select illustrations and examples that help the student develop such a mental image. Effective illustrations need to motivate without trivializing. We will discuss ways of illustrating results such as Leibniz's Alternative Series Test and various approximation theorems. (Received September 22, 2011)