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Mathematics majors' perceptions of the admissibility of graphical inferences in proofs.

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Summary: In this paper, we investigate mathematics majors' perceptions of the admissibility of inferences based on graphical reasoning for calculus proofs. The main findings from our study is that the majority of mathematics majors did not think that graphical perceptual inferences (i.e., inferences based on the appearance of the graph) were permissible in a proof, but the majority of mathematics majors did believe that graphical deductive inferences (i.e., inferences based on what must necessarily be entailed by a graph having a certain property) were permissible.

Classification: E55

Keywords: proof; proof scheme; undergraduate mathematics education; visual reasoning

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