

CAS AND DIGITAL ARTIFACTS IN THE MATH CLASS (SEMIOTIC FUNCTIONS IN THE STUDY OF THE OBJECT CONTINUITY AT A POINT)

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ABSTRACT

Theory of meaningful mathematics instruction based on the ontological-semiotic of mathematical cognition called Theory Semiotics Functions (TSF provides a unified framework for the study of various forms of mathematical knowledge and their interactions within didactics systems.

*I present a development of this theory that consist in the decomposition of an object, for our model, the definition of **Continuity at a point** -as is showed in middle schools texts- in units to identify entities: -ostensive(notations),extensive(situation-problem),intensive(ideas,abstractions) an actuative entity(subject´s actions) establishing semiotic functions for the understanding of the concepts(variations, intervals, convergence ,environment, neighbourhood, point accumulation, limit of a function) in the process of teaching and learning in the math class implementing digital artifacts and CAS (graphing calculator voyage 200 or emulator voyage 200).*

Keywords and phrases: *primary entities, semiotics functions, CAS and digital artifacts, definition of Continuity.*