

Abstract Submitted
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The bouncing ball through a geometrical series SERGIO FLORES, LUIS L. ALFARO, JUAN E. CHAVEZ, AZTLAN BASTARRACHEA, JAZMIN HURTADO — The mathematical representation of the physical situation related to a bouncing ball on the floor is an important understanding difficulty for most of the students during the introductory mechanics and mathematics courses. The research group named *Physics and mathematics in context* from the University of Ciudad Juarez is concerned about the versatility in the change from a mathematical representation to the own physical context of any problem under a traditional instruction. In this case, the main idea is the association of the physical properties of the bouncing ball situation to the nearest mathematical model based on a geometrical series. The proposal of the cognitive development is based on a geometrical series that shows the time the ball takes to stop. In addition, we show the behavior of the ratio of the consecutive heights during the motion.

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