

SAW Three-Month Workshop:

Mathematical Practices in relation to the Astral Sciences

Abstract

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Arithmetical progressions and geometrical reasoning in Babylonian schemes for Jupiter's daily motion: Babylonian astronomy and mathematics: two disciplines, one methodology?

Abstract: In this paper I discuss the various Babylonian schemes for computing Jupiter's position from day to day. In most of the schemes, Jupiter's motion is described using a daily displacement (v) that is piecewise constant in time. New evidence is presented for a scheme in which Jupiter's motion is described using a prescription for v as piecewise linear in time. It is suggested that this scheme is connected to several badly understood so-called mathematical procedures involving trapezoids. Finally the single known example of a scheme in which v is piecewise quadratic in time is briefly mentioned.