

ZMATH 2013b.00826

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Ellipses and orbits: an exploration of eccentricity.

Math. Teach. (Reston) 105, No. 3, 220-224 (2011).

Summary: The orbits of planets about the sun and satellites about the earth are elliptical. The shape of the orbit can be described by its eccentricity and can be modeled algebraically and graphically. The exploration of orbits enriches our understanding of the mathematical representations, definitions, and connections for ellipses.

Classification: M50 G40 G70

Keywords: astronomy; ellipses; focus; eccentricity; length of major axis; distance between foci; aphelion distance; perihelion distance; worksheets; Mercury orbit; mathematical applications

<http://www.jstor.org/stable/10.5951/mathteacher.105.3.0220>