

A Focus on the Mathematics of a Flashlight with a Focus

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Abstract

The Geometry Application of the TI-92 is used to investigate phenomena associated with a Mag Lite "focusable" flashlight. Reflection properties of parabolas with light source moved away from the focus are shown dynamically.

Explanations of the appearance of light passing through objects and the presence of rings of different light intensities are given. TI-92 version of Derive is used for some calculus work and to carry out derivations that would be very "messy" when done by hand.