

ZMATH 2015c.00682

Contreras, José

Solving optimization problems with dynamic geometry software: the airport problem.

J. Math. Educ. Teach. Coll. 5, No. 2, 17-27 (2014).

Summary: This paper describes how the author's students (in-service and pre-service secondary mathematics teachers) enrolled in college geometry courses use the Geometers' Sketchpad (GSP) to gain insight to formulate, confirm, test, and refine conjectures to solve the classical airport problem for triangles. The students are then provided with strategic hints to develop a mathematical proof to justify the conjecture discovered with the help of GSP.

Classification: G40 U70 E50

Keywords: geometric optimization problems; problem solving; computer as educational medium; dynamic geometry software; visualization; plane geometry; triangles; circles; airport problem; minimum sum of distances; proofs; investigations; justifying; proving; conjecturing; experiments

<http://journals.tc-library.org/index.php/matheducation/article/view/1041/645>