

1135-C5-1438      **Michael A. Karls\*** (mkarls@bsu.edu), Department of Mathematical Sciences, Ball State University, Muncie, IN 47306. *Verifying One-Dimensional Groundwater Flow with Incomplete Data.*

In 2009 I began a series of student research projects\* aimed at validating classic groundwater flow models that involve the heat equation. We will look at the following problem, based on the data collected for one of these projects: *Suppose you have collected head level data measured at three water wells in a row, but are unsure of the fixed head levels at boundaries to the left and right of these wells. Find a model for this data.* We offer two ways to approach this problem which lead to models that produce an excellent match to the data.

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