



The Root is Right

Lesson Plan

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Goal: To help students understand the bisection method algorithm to determine roots of an equation.

Grade and Course: 10th and 11th grades – Algebra II

KY Standards: MA-HS.5.1.5

Objectives: Students should demonstrate an understanding of using the bisection method algorithm to estimate real roots within a set margin of error.

Resources/materials needed: Worksheets, graphing calculators, classroom graphing calculator, and stopwatches.

Description of Plan: Start by talking about the “The Price is Right” Clock Game where the contestant tries to determine the price of two objects within thirty seconds by guessing and being told whether the price is too high or too low. Let the students break up into pairs and try the game by any method they see fit. Bring them back together and teach them how to do the bisection method to determine the root. Allow them to do part two of their worksheet and bring them back together again to discuss any advantages or problems with this method. As an extension, you can discuss modified methods using the bisection method and any other strategy. Try and work toward the fastest method which would be using the bisection method initially and then just running through the numbers in the interval. Now you can follow up by demonstrating this method by graphing a line and cutting the x interval in half after each iteration.

Lesson Source: Original lesson.

Instructional Mode: Interactive lecture, group activity.

Date Given: 04/23/2009

Estimated Time: One class period.

Date submitted to Algebra³: 03/26/2009