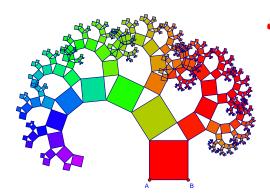
Starting Points



Ideas for Using Technology in the Mathematics Classroom By Frank Sobierajski fsobierajski@nrwcs.org Forty-Fifth Annual

Hudson-Mohawk Valley Area Mathematics Conference Bethlehem Central High School March 13, 2004

Chaos—Newton's Square Root Algorithm

Software: Excel[®] /AppleWorks[®]

- Adopted from: Newton's Method for Square Root: A spreadsheet investigation and Extension into Chaos by Sharon Dugdale, Mathematics Teacher, October 1998
- Also see: Chaotic Behavior in the Classroom, Mathematics Teacher, Feb. 2000

Proofs in Logic

- Software: Geometer Sketchpad[®]—also Word[®] and AppleWorks[®] provided text boxes are used.
- Adopted from: Technology Tips by Al Coons, Mathematics Teacher Feb. 2000, p. 156

Make your own Clipart!

Software: Geometer Sketchpad®

Locus of Points

- Software: Geometer Sketchpad[®]
- Adopted from: Exploring the Locus Definitions of the Conic Sections by Eugene A. Olmsead, Mathematics Teacher May 1998.

A Treasure Hunt using Locus Definitions

- Software: Geometer Sketchpad®
- Adopted from: Idea heard in a discussion with a colleague.

Topic: Parametric Color, Loci & Random Wandering

- Software: Geometer Sketchpad®
- Adopted from: Original Idea

Spreadsheet Sliders

- Software: Excel[®], Sorry AppleWorks[®] doesn't have this feature.
- Adopted from: Spreadsheet Sliders as new graphing tools. Presented by Sergei Abramovich and Rory Szwed, NCTM Chicago 2000
- Also see: Making Sense of Slope, Mathematics Teacher Feb. 2000, p. 114

Topic: Parametric Color, Loci & Random Wandering

- Software: Geometer Sketchpad®
- Adopted from: Original Idea

Sliders in Sketchpad

- Software: Geometer Sketchpad®
- Adopted from: Visualizing Functions: Introductory Algebra Activities with The Geometer Sketchpad by Nicholas Jackiw, NCTM Pittsburgh 1999

Topic: Parametric Color, Loci & Random Wandering Scanning for speed...

- Software: Geometer Sketchpad®
- Adopted from: Original Idea

Fractal drawing

- Software: Word[®] /AppleWorks[®]
- Adopted from: Focus on Fractals by Dr. Evan M. Maletsky, NCTM Boston 1995 & some original ideas.

More Fractals

- Software: Geometer Sketchpad[®]
- Some original ideas with a little help from my friends—with special thank you to Alan Russell.

The Chaos Game

- Software: Excel[®]
- Adopted from: Various Sources

Free Math Clipart and Fonts

- Software: Netscape[®]/Internet Explorer[®]
- Website: http://www.educaide.com/download/graphics.html

Digital Images—Problems Around Us

- Digital Camera
- From: Original idea!

Digital Images—Making Parabolas

- Software: Geometer Sketchpad[®]/Graphic Analysis[®]
- Adopted from: Using A Digital Camera To Verify Quadratic Behavior, by Harris S. Shultz, <u>Mathematics</u> <u>Teacher</u>, April 1999

Digital Images—Permutations & Combinations

- Software: PowerPoint[®]
- Adopted from: Photographs and Committees: Activities That Help Students Discover Permutations and Combinations, by Jennifer Earles Szyriik, Mathematics Teacher, February 2000

Digital Images—Transformations

- Software: PowerPoint[®]
- From: Chip Pierce—used with permission.

Digital Images—Video to frame a problem

- Software: PowerPoint[®]/Excel[®]/Video Editing Software/Fi Interactive[®]/Sketchpad[®]
- Original Idea!

Equation Writing

Software: Word[®] /AppleWorks[®] /TI-Interactive for the software.

Math Jeopardy & Other Games People Play

- Software: PowerPoint[®]/HyperStudio[®]
- Adopted from: Technology Tips by Mary Kathryn Geesaman, <u>Mathematics Teacher</u>, January 2000 Thanks to who ever gave me the second.

Dynagraphs

- Software: Geometer Sketchpad[®]
- Adopted from: Sample files on Sketchpad CD

Functions, Tangents, Slopes & First Derivatives

- Software: Geometer Sketchpad[®]
- Adopted from: Geometer Sketchpad Master Class, Mills College, Oakland, CA, July 2002

Squaring the States...

- Software: Geometer Sketchpad[®]/ IE or Netscape
- Adopted from: A magazine article that I cannot find...if any one knows I would really like to know.

The Birthday Problem

- Software: Excel[®]/AppleWorks[®]
- Adopted from:Original Idea!
- Also see: Exploring the Birthday Problem with Spreadsheets by Lawrence M Lesser, Mathematics Teacher May 1999