



## Starting Points

Ideas for Using Technology in the  
Mathematics Classroom

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### Chaos—Newton's Square Root Algorithm

- Software: Excel<sup>®</sup> /AppleWorks<sup>®</sup>
- 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<sup>®</sup>—also Word<sup>®</sup> and AppleWorks<sup>®</sup> 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<sup>®</sup>

### Locus of Points

- Software: Geometer Sketchpad<sup>®</sup>
- Adopted from: *Exploring the Locus Definitions of the Conic Sections* by Eugene A. Olmstead, Mathematics Teacher May 1998.

### A Treasure Hunt using Locus Definitions

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

### Topic: Parametric Color, Loci & Random Wandering

- Software: Geometer Sketchpad<sup>®</sup>
- Adopted from: Original Idea

### Spreadsheet Sliders

- Software: Excel<sup>®</sup>, Sorry AppleWorks<sup>®</sup> 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<sup>®</sup>
- Adopted from: Original Idea

### Sliders in Sketchpad

- Software: Geometer Sketchpad<sup>®</sup>
- 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<sup>®</sup>
- Adopted from: Original Idea

### Fractal drawing

- Software: Word<sup>®</sup> /AppleWorks<sup>®</sup>
- 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, Mathematics Teacher, April 1999

## Digital Images—Permutations & Combinations

- Software: PowerPoint®
- Adopted from: *Photographs and Committees: Activities That Help Students Discover Permutations and Combinations*, by Jennifer Earles Szyalik, 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/TI Interactive®/Sketchpad®
- Original Idea!

## Equation Writing

- Software: Word®/AppleWorks®/TI-Interactive®

## Math Jeopardy & Other Games People Play

- Software: PowerPoint®/HyperStudio®
- Adopted from: Technology Tips by Mary Kathryn Geesaman, Mathematics Teacher, 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