

Exploring Algebra With Creative Designs

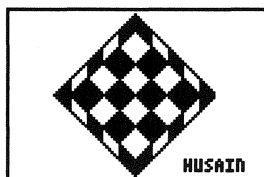
Iftikhar Husain
 University High School
 Newark, NJ-07108
 E-mail: inaz786@yahoo.com

Teaching in the new millennium challenges teachers at all grade levels to engage students in leaning for greater depth and meaning. The fast growing graphing calculator technology with the innovative Exploring Algebra With Creative Designs Program is a great help in **all mathematics** classes to meet these challenges. The program provides teachers a unique tool to teach algebraic concepts by creating designs on a graphing calculator using equations of mathematical functions. The creative design technique helps students to enhance visual thinking. It helps students to understand and to apply *Algebra and Geometry* concepts in a creative and enjoyable way. The visual illustrations inspire and motivate students in the learning process. The Exploring Algebra With Creative Designs Program encourages students to quickly see and study graphs of functions encountered in *Pre-algebra* through *Calculus* courses.

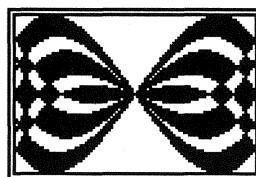
The Power Point Presentation discusses the different aspects in which the Creative Designs Program can be used in all mathematics classes effectively. Some of the designs with mathematical functions are shown below. The participants, in the second half of the session, use TI-83 or TI-83Plus graphing calculators and create designs based on linear and quadratic functions, and more if time permits. The participants will be guided, step-by-step, through the concepts of mathematics, and the shading options of TI-83 calculators, to create a design given on a worksheet. The **Mathematical Art** created on a graphing calculator can be printed by using a computer and a printer. A Mathematical Art gallery to exhibit the students' creative work, with its mathematical descriptions, can be organized. Students' creative designs with mathematical descriptions can also be transformed on a fabric **T-Shirt**. A custom made T-Shirt inspire and motivate other students in the learning process. Teachers can create their own classroom **posters** or **borders** demonstrating various mathematical concepts.



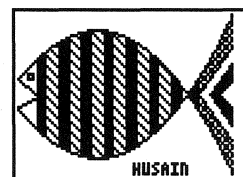
Linear Functions



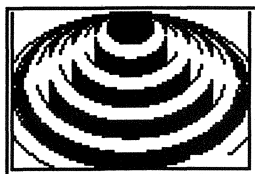
Linear Functions



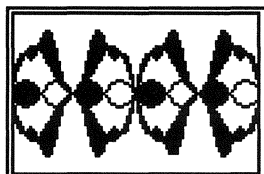
Polynomial Functions



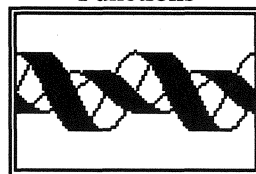
Quadratic Functions



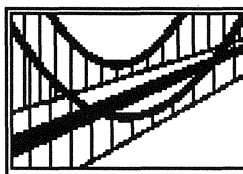
Conic



Trigonometric Functions



Trigonometric Functions



Linear and Quadratic Functions