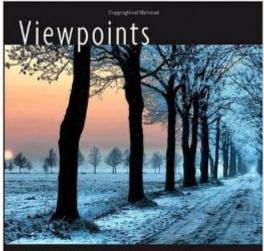
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# Viewpoints: Mathematical Perspective And Fractal Geometry In Art



Mathematical Perspective and Fractal Geometry in Art

MARC FRANTZ AND ANNALISA CRANNELL

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## Synopsis

An undergraduate textbook devoted exclusively to relationships between mathematics and art, Viewpoints is ideally suited for math-for-liberal-arts courses and mathematics courses for fine arts majors. The textbook contains a wide variety of classroom-tested activities and problems, a series of essays by contemporary artists written especially for the book, and a plethora of pedagogical and learning opportunities for instructors and students. Viewpoints focuses on two mathematical areas: perspective related to drawing man-made forms and fractal geometry related to drawing natural forms. Investigating facets of the three-dimensional world in order to understand mathematical concepts behind the art, the textbook explores art topics including comic, anamorphic, and classical art, as well as photography, while presenting such mathematical ideas as proportion, ratio, self-similarity, exponents, and logarithms. Straightforward problems and rewarding solutions empower students to make accurate, sophisticated drawings. Personal essays and short biographies by contemporary artists are interspersed between chapters and are accompanied by images of their work. These fine artists--who include mathematicians and scientists--examine how mathematics influences their art. Accessible to students of all levels, Viewpoints encourages experimentation and collaboration, and captures the essence of artistic and mathematical creation and discovery. Classroom-tested activities and problem solving Accessible problems that move beyond regular art school curriculum Multiple solutions of varying difficulty and applicability Appropriate for students of all mathematics and art levels Original and exclusive essays by contemporary artists Forthcoming: Instructor's manual (available only to teachers)

### **Book Information**

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#### **Customer Reviews**

I have to admit, this book is pretty challenging. There is a ton of geometry math that is used to describe the mathematical aspects of perspective. But it is a face, it increased my understanding of perspective. It is not an easy book to get through, and frankly I probably only understood about 20% of it, but that 20% was useful, and some day I will probably go back and actually try to do the exercises.

This is a very specialized book, and after looking at it I have created a wonderful sculpture that we sold to a local hospital. Very fine information.

Clearly articulated. Well structured. A great resource for mathematicians interested in the arts, artists interested in the mathematics underlying optics, or instructors interested in an accessible tool to introduce STEM materials to non-mathematicians.

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