MATHEMATICS MEDIAGRAPHY

Updated 08/2005

AGAINST ALL ODDS: INSIDE STATISTICS
13 videocassettes. 26 programs. VHS. 30 min each. 1989.
Presents the why as well as the how of statistics using computer animation, colorful on-screen computations, and documentary segments.
519.5 A259a

A BEAUTIFUL MIND
1 videocassette. VHS. 135 min. 2001.
Dramatic biography of John Nash, a mathematical genius, who made an astonishing discovery early in his career and stood on the brink of international acclaim. But the handsome and arrogant Nash soon found himself on a painful and harrowing journey of self-discovery. After many years of struggle, he eventually triumphed over his schizophrenia, and finally, late in life, received the Nobel Prize.
791.4372 B384m

THE BIRTH OF CALCULUS
1 videocassette. VHS. 26 min. 1986.
Two men can rightly claim to have invented calculus, one of the most basic and fundamental tools in modern mathematics -- Isaac Newton and Godfrey Wilheim Leibniz. This presentation discusses the similarities and differences in the two men's findings published in the late 1680's.
515.09 B619o

EXPERIENCE: FRACTAL IMAGES AND FRONTIERS OF CHAOS
1 videocassette. VHS. 20 min. 1987.
Shows ten titled segments of a variety of fractal formations moving to the accompaniment of electronic music.
516 E96f

THE FANTASTIC WORLD OF M.C. ESCHER
1 videocassette. VHS. 50 min. 1994.
Through first-person accounts by Escher's friends and mathematicians, computer animated re-creations of his work, and a look at his sources of inspiration, The Fantastic World of M.C. Escher explores the man, his inspirations, and the mathematical principles found in so much of his art.
769.92 F216w

FOR ALL PRACTICAL PURPOSES: MANAGEMENT SCIENCE
3 videocassettes. VHS. 30 min each. 1988.
Discusses the applications of mathematical optimization and linear programming in the management of fruit juice production.
510 F692al

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FOR ALL PRACTICAL PURPOSES: STATISTICS
3 videocassettes. VHS. 30 min each. 1988.
Deals with the mathematical applications of statistics in understanding and analyzing our world. Uses computer graphics, animation sequences, and live action. Intended for entry-level liberal arts students.
510 F692al

FOR ALL PRACTICAL PURPOSES: SOCIAL CHOICE
3 videocassettes. VHS. 150 min. 1988.
Deals with how mathematics can be used to make social choices ranging from a fair voting system, determining award winners, and setting economic and governmental planning priorities. Uses computer graphics, animation sequences, and live action. Intended for entry-level liberal arts students.
510 F692al

FOR ALL PRACTICAL PURPOSES: ON SIZE AND SHAPE
3 videocassettes. VHS. 30 min each. 1988.
Deals with how mathematics can be applied to the concepts of size and shape. Covers such topics as the geometry of space and time, population and food supply, and mathematical models. Uses computer graphics, animated sequences, and live action. Intended for entry-level liberal arts students.
510 F692al

FOR ALL PRACTICAL PURPOSES: COMPUTER SCIENCE
3 videocassettes. VHS. 30 min each. 1988.
Presents a historical view of the role of mathematics in the development of the computer and details the role that computers are now playing in research in the field of mathematics. Uses computer graphics, animation sequences, and live action. Intended for entry-level liberal arts students.
510 F692aL

FRACTAL FANTASY
1 videocassette. VHS. 30 min. 1987.
An artistic study of over 20 different regions within a mathematically defined region known as the Mandelbrot Set.
516 F798f

"GOOD MORNING MISS TOLIVER"
1 videocassette. VHS. 27 min. 1993.
Shows how East Harlem teacher, Kay Toliver, gets her students inspired and motivated in the math class.
371.102 G646m

INFINITE SECRETS
1 videodisc. DVD. 60 min. 2003.
The Einstein of his era, Archimedes had a sophisticated understanding of mathematics, and designed marvelous war machines for his native Syracuse to use against the invading Romans. Many of his writings disappeared during the Middle Ages and one document; The method seemed irretrievably lost, until it appeared in 1991. Nova explores Archimedes' rare writings, as well as the book's mysterious beginnings and amazing discovery.
510.92 I43s

INTRODUCING THE TEXAS INSTRUMENTS TI-82
2 videocassettes. VHS. 1995.
510.285 I61t

INTRODUCING THE TEXAS INSTRUMENTS TI-85
2 videocassettes. VHS. 1995.
510.285 I61th

JOURNEY THROUGH GENIUS
1 videocassette. VHS. 29 minutes. 1991.
Gary Wolf and William Dunham discuss the important role of mathematics and the work of mathematicians throughout history.
510 J86t

LIFE BY THE NUMBERS
7 videocassettes. VHS. 120 min. 1998.
510 L722b

MAA CALCULUS FILMS
3 videocassettes. VHS. 1993(?).
Pt. 1 - 53 min: Demonstrates a function as a mapping between two points; defines continuity and a point in terms of neighborhood; defines the term limit, using the idea of neighborhoods; illustrates the concept of maximizing and its value in problem solving; derives the theorem of the mean from Rolle's theorem.
Pt. 2 - 52 min: Presents Newton's method as representative of an iterative procedure; defines the definite integral using Riemann sums; demonstrates the fundamental theorem of calculus, showing the functions F(x) and f(x) graphed simultaneously on separate sets of axes to illustrate that F'(x) = f(x); defines area in terms of the calculus.
Pt. 3 - 53 min: Discusses areas under curves with emphasis on the graphs of continuous and monotone functions; illustrates the definite integral by the method of upper and lower sums; explains that the volume of an urn-like solid can be expressed with a definite integral; explains that the volume of a torus can be expressed as a definite integral using the shell method.
510 M111c

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THE MAN WHO LOVED NUMBERS
1 videocassette. VHS. 57 min. 1988.
Reviews Srinivasa Ramanujan's accomplishments in the field of mathematics and the current consequences of his work. Ramanujan left behind some of the most remarkable formulas and theorems in the history of pure mathematics. The origins of his mathematical insight, however, remain a mystery.
510.9 M266w

MATH WHO NEEDS IT?!
1 videocassette. VHS. 58 min. 1991.
Beginning in Jaime Escalante's East Los Angeles classroom, this video is a fun and exciting adventure showing how math is used in real life. With guest appearences by Bill Cosby, Dizzy Gillespie, Teri Garr, and world-class professionals, engineers and designers, viewers are shown the applications of math from skateboard design to fashion, sports, and music.
510.712 M426w

MATHEMATICAL PEEP SHOW
1 videocassette. VHS. 12 min. 1961.
Uses animation and photographic techniques in a brief discussion of five basic mathematical principles, including topology, symmetry, functions, and exponents.
510 M426p

MINERVA'S MACHINE: WOMEN AND COMPUTING
1 videocassette. VHS. 60 min. 1995.
This documentary on women in computing profiles a diverse group of successful women in the field today. Topics covered include the history of women in computing, the departure of women from academic computing in the mid-80s, why there are fewer women in computing than men, and gender differences in response to high technology. Sociologists, psychologists, educators, and other experts report findings on research into different responses to computers and video games and reports are given on programs designed to encourage girls in math, science and engineering, as well as other ways to bridge the computer gender gap.
004.082 M664m

POWERS OF TEN: A FILM DEALING WITH THE RELATIVE SIZE OF THINGS IN THE UNIVERSE AND THE EFFECT OF ADDING ANOTHER ZERO
1 videocassette. 9 min. 1978.
Dealing with scale, proportion, and dimension, the film moves in real time over a course of 40 powers of ten, from the cosmic distances of the universe to the heart of the atom. Some techniques used are classical and radio astronomy; large-format aerial, mapping, and satellite photography; X-ray diffraction analysis; and models.
500 P888o

THE PROOF
1 videocassette. VHS. 60 min. 1997.
Describes mathematician Andrew Wiles' quest to prove Fermat's Last Theorem and shows complex mathematical concepts with the help of computer animation.
512.74 P965a

TRIUMPH OF THE NERDS
3 videocassettes. VHS. 55 min each. 1996.
Covers the pioneering years of the PC revolution during the mid-1970s in Silicon Valley (1st work). Explains how the PC industry came of age in the 1980's. Interviews Steve Jobs who co-founded Apple Computer and Bill Gates of Microsoft (2nd work). Looks at changes in the PC industry during the 1990's and their impact on the future. Discusses the Graphical User Interface (GUI) and the Internet (3rd work).
338.761004 T839o

YOU'RE GONNA NEED THOSE NUMBERS.
1 videocassette. VHS. 17 min. 1992.
Demonstrates how different professions and leisure activities use math.
510 Y819g