

## History of Mathematics: Suggested Topics for Second Paper

(\* indicates a technical topic)

- Arab/Indian mathematics
- Fibonacci
- The “cubic controversy”
- Logarithms
- Simon Stevin and decimal fractions
- Descartes: philosophy and mathematics
- Isaac Newton, life and mathematics
- The Newton-Leibniz calculus controversy
- Gauss, the “Prince of Mathematics”
- Other mathematical biographies (Leibnitz, Fermat, Euler, d’Alembert, Galois, Abel, Riemann, Sophie Germain, Sonia Kovalevskaya, Emmy Noether, Hardy, Ramanujan)
- Book reviews, e.g.: *Hilbert* by Constance Reid; *The Man Who Knew Infinity* (Ramanujan) by Robert Kanigel; *Descartes’ Dream* by Davis & Hirsch
- Women in mathematics
- Einstein and the mathematics of relativity (\*)
- Paradoxes of set theory and logic (\*)
- George Cantor and the infinite (\*) (There’s a new book on Cantor’s life.)
- Non-Euclidean Geometry (Gauss, Bolyai, Lobachevski)
- Fermat’s Last Theorem
- Interviews with mathematicians
- Prime numbers and the Prime Number Theorem (\*)
- Should high school students learn math history?
- Gödel’s Theorem (\*)
- History of Imaginary or Complex numbers
- Turing and the beginnings of computer science (\*)
- Famous solved and unsolved problems
- Fractals and Chaos Theory (\*)

(For other ideas, look through books on reserve, as well as *The World of Mathematics*, a four volume set by J. Nagel and E. Newman. See me for further suggestions and for help: I have articles you can use.)