

The Math News

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This issue's quotation:

Can we place in history the Golden Age of Mathematics?....It is the present.

Ian Stewart,
The Problems of Mathematics, Oxford, 1992

Many Naval Academy mathematicians study data compression.

Professors **McCoy** and **Pierce** study wavelets.

Professor **Withers** looks at using fractals for data compression.

Professor **Crawford** created a fingerprint classification system for the FBI using graph theory.

- **SM342**, Discrete Mathematics, discusses graph theory and some of its applications.
- Fourier series are discussed in **SM212**, Differential Equations.
- Mathematics majors take many “experimental”

courses numbered **SM485** or **SM486**. One topic has been the mathematics of wavelets. Other such courses deal with fractals, chaos, applied algebra, the history of mathematics, global positioning satellite systems, and many others.

- These courses are a popular way to introduce midshipmen to recent developments in mathematics.
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Quick fact: USNA graduate **David Robinson** is best known for his basketball career. Less well known is the fact that he majored in math at the Naval Academy.

Quick problem: If three circles of radius 1 are all tangent to one another, there's room in the middle for a smaller circle tangent to all three. What's its radius?

Last issue's problem: If you break a line segment into two pieces by selecting a dividing point at random, how likely is it that one piece is at least twice as long as the other?

One piece is at least twice as long as the other if the break is in the first third or last third of the line segment, and not if it's in the middle third. So the chance of success is 2/3.

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