

Math Mole

July 10, 2007

Final Test Eve

Volume 5, No. 2

This issue

- Mathematician of the Day
- Puzzles
- Spotlight
- Today's Editor: Nikki
- Spotlight: Rachel

Puzzles:

One: What are the last two digits of 3 raised to the 2007 power?

Two: A certain gsser has a very specific ritual for climbing up the stairs of doom (up the hill) to the class. First he climbs up to the middle step and regrets his choice to walk for 1 minute. Then he climbs up 8 steps and faces east until he hears a bus go by. Then he walks down 12 steps and looks at his name tag and asks, "Why did I come to nerd camp?" He takes one step up and tosses the tag over his left shoulder. Now, he walks up the remaining steps three at a time which only takes him 9 paces. How many steps are there?

Three: There are seven parts to this riddle,

Each is part of a greater whole.

You see most of these,

Everyday as you please:

First is what I did to a book yesterday,

Second mixes with apples.

Third is a shout, then "ouch" you say,

Fourth shares the sound of mean.

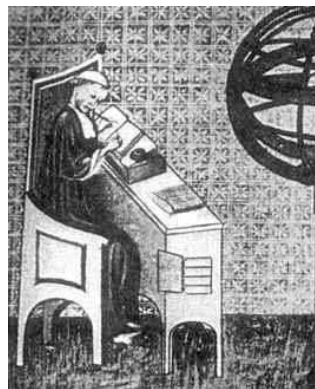
Fifth is what the wind had done,

The sixth is often skipped.

The last and final can be called by two names,

If roses are this, then which is the blue one?

Mathematician of the Day



Nicole d'Oresme

- He was born in the year 1323, but no one is quite sure of the exact date.
- Nicole was a french mathematician, philosopher, physicist, astronomer, and theologian.
- His greatest contributions to mathematics are contained in *Tractatus de configuratione qualitatum et motuum*, or *Treatise on the configurations of qualities and motions*.
- He concieved the the idea of what is now modern rectangular coordinates.
- Nicole long preceded Decartes in the invention of analytical geometry.
- He is credited with being the first to use a fractional exponent and also worked with infinite sets.
- Oresme died on July 11, 1382 in Lisieux, France.

Picture From: <http://www-history.mcs.st-andrews.ac.uk>

Reading Assignment:

Nothing new, just prepare for the exam.

Math Spotlight: Fermat's Last Theorem

Fermat's Last Theorem has loomed over mathematicians for centuries. The problem originally appeared in 1637 in Fermat's copy of *Arithmetica*; he had noted that it was true, but the margin wasn't big enough to contain the proof.

If an integer n is greater than 2, then the equation $a^n + b^n = c^n$ has no solutions in non-zero integers a , b , and c . This theorem is basically saying that there are no Pythagorean triples for n greater than two.

Certain cases were proved throughout the years by mathematicians such as Euler, Dirichlet, Legendre, etc. The problem was never solved because there are an infinite number of cases. It wasn't until the twentieth century that Andrew Wiles was able to put together what would be a two hundred page proof for what seems like such a simple problem. After finally completing the proof, Wiles admitted that Fermat probably couldn't have had this proof because the math used wasn't around in Fermat's day. Although Fermat's Last Theorem has very little practical application, it inspired much more mathematics in the 357 years it went unsolved.