## Math 201 - Discrete Mathematics and the Theory of Numbers

## Fall Semester 2017

Section 002:  TTh 2:30 – 3:45 pm  (120 Dumbach Hall)



[*the prime spiral (aka the Ulam spiral)*](https://en.wikipedia.org/wiki/Ulam_spiral)

Notice that the blue numbers (all primes but for 1) tend to line up along [diagonal](https://en.wikipedia.org/wiki/Diagonal) lines.

In a passage from his 1956 novel [*The City and the Stars*](https://en.wikipedia.org/wiki/The_City_and_the_Stars), author [Arthur C. Clarke](https://en.wikipedia.org/wiki/Arthur_C._Clarke) describes the

prime spiral seven years before it was discovered by Ulam. Clarke did not notice the pattern

revealed by the prime spiral because he never actually performed the experiment.

* [Ground Rules](http://www.math.luc.edu/~ajs/courses/201fall2017/groundrules.pdf)
* [Piazza](http://piazza.com/luc/fall2017/math201002/home)
* [Homework & Reading Assignments](http://www.math.luc.edu/~ajs/courses/201fall2017/homework.pdf)
* Groupwork
* [Class discussion problems](http://www.math.luc.edu/~ajs/courses/201fall2017/cd/cdIndex.pdf)
* Test Solutions
* [Useful References](http://www.math.luc.edu/~ajs/courses/201fall2017/references.pdf)
* [History of Number Theory](http://www-gap.dcs.st-and.ac.uk/~history/Indexes/Number_Theory.html)

On the other hand, it is impossible for a cube to be written as

a sum of two cubes or a fourth power to be written as a sum of

two fourth powers or, in general for any number which is a

power greater than the second to be written as a sum of two like

powers. For this I have discovered a truly wonderful proof,

but the margin is too small to contain it.

– P. Fermat



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