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

## Fall Semester 2019

Section 002:  TTh 11:30 am– 12:45 pm  (236 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 Ulam discovered it. Clarke did not notice the pattern

revealed by the prime spiral because he never actually experimented.

* [Ground Rules](http://www.math.luc.edu/~ajs/courses/fall2019/201/groundRules.pdf)
* [Piazza](http://piazza.com/luc/fall2019/math201002/home)
* [Homework & Reading Assignments](http://www.math.luc.edu/~ajs/courses/fall2019/201/homework.pdf)
* [Questions for Class Discussion](http://www.math.luc.edu/~ajs/courses/fall2019/201/cd/cdIndex.pdf)
* Quiz Solutions ([qz 1](http://www.math.luc.edu/~ajs/courses/fall2019/201/quizSolutions/quiz1.pdf), [qz 2](http://www.math.luc.edu/~ajs/courses/fall2019/201/quizSolutions/quiz2.pdf), qz 3, qz 4)
* Test solutions (t 1, t 2, t 3)
* [Useful References](http://www.math.luc.edu/~ajs/courses/fall2019/201/references.pdf)
* [History of Number Theory](https://www.britannica.com/science/number-theory)
* Practice Tests

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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