

*Department of Mathematics,  
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# Zoom for Thought

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## Potpourri of Number Theory

**Abstract:**

Fermat's Last Theorem that  $x^n + y^n = z^n$  has no positive integer solutions for  $n > 2$  was first written down by Fermat himself in the early 17th century and resisted proof until Andrew Wiles' monumental 1994 paper. During the 300 years in between, many others tried their hand and along the way developed a lot of interesting number theory. We will discuss more classical topics in algebraic number theory - cyclotomic fields, higher reciprocity laws, class field theory, etc. - in the context of historical attempts to prove the theorem. We will be able to verify (the first case of) Fermat's Last Theorem for pretty high prime exponents ( $p \leq 156,442,236,847,241,729$ ).

**Tuesday, April 20, 2021**

**2:00 PM**

**Please see email with subject "Zoom for  
Thought Information."**

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