

A fourteenth lecture on Fermat's Last Theorem

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Abstract.

Wiles' proof of Fermat's last Theorem puts an end to the era (so admirably documented in Ribenboim's book "13 lectures on Fermat's Last Theorem") of settling special cases of Fermat's conundrum by a combination of ingenious elementary methods and insights coming from the theory of cyclotomic fields. Or does it really?

I will report on a fragmentary collection of results obtained over the past years by many people (Bennett, Ellenberg, Frey, Granville, Halberstadt, Kraus, Merel, Poonen, and Skinner, among others) that have built on the methods used in Wiles' breakthrough to gain insights on variants of Fermat's equation such as $Ax^n + By^n = Cz^n$ and $x^p + y^q = z^r$.

