

Philadelphia Area Number Theory Seminar

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Diophantine Equations II: New results via Diophantine approximation

Abstract: I will present my recent result that for $a, b, k \geq 2 \in \mathbb{Z}^+$ with $k \geq 7$, the equation

$$(a^2x^k - 1)(b^2y^k - 1) = (abz^k - 1)^2$$

has no solutions in integers $x, y, z > 1$ with $a^2x^k \notin b^2y^k$. Key to the proof are standard results on continued fractions and a Diophantine approximation theorem due to Bennett.

Wednesday, October 8, 2014
2:40{4:00PM

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Tea and refreshments at 2:20PM in Park 355