YMC 2006

Young Mathematicians Conference 2006

August 4 th-6 th at The Ohio State University.

Asymptotics on the Class Number

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Abstract of Report Talk: If x and y are integers, what numbers can be represented by the form x^2+y^2? What about $5x^2+6xy+2y^2$? Interestingly, the answers to both questions are the same. Furthermore, this has something to do with the fact that both have the same discriminant, $d = b^2 - 4ac$. Carl Gauss and other mathematicians have studied questions like this in a general context by looking at polynomials of the form $f(x, y) = ax^2 + bxy + cy^2$.

The examples above turn out to be in the same equivalence class. In our talk we will define what it means for two forms to be equivalent, show how to count the number, called the class number, of equivalence classes, and discuss our results on the asymptotics of the class number. [KL12165509]

[Joint work with Jennifer Koonz]

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Received: July 20, 2006