

# **Undergraduate Mathematics Colloquium**

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## **Constructibility, Solvability, and Origami**

**Friday February 23**

Talk at 4:00 in Herman Brown 227

Tea at 3:30 in Herman Brown 438

**ABSTRACT:**

Given an infinite sheet of paper, an unmarked ruler, and a compass (for drawing circles), is it possible to divide an angle of 60 degrees into three equal angles? Well, the ancient Greeks couldn't do it, and neither could anyone else for about the next 2000 years. This is a famous problem with a long history, and there are a number of problems like it, which we will discuss. Under certain assumptions it turns out to be impossible, and that is something which we can prove using tools from an abstract branch of mathematics called field theory. However, despite what many people think, with a little imagination it is possible to solve the problem, as stated above. Come to the lecture and find out how!

**Rice University Department of Mathematics**