Constructible Numbers: Language, Meta-Language and The Three Problems of Antiquity

by

Matthew Lewis
Department of Mathematics, Statistics, and Computer Science
St. Francis Xavier University

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The Three Problems of Antiquity were long-standing problems in the field of classical geometry – long-standing here means that they are as old as mathematics itself – and many brilliant mathematicians spent a good part of their careers trying to solve them. In this talk, I will introduce the constructible numbers – the mathematical language of the classical Greeks – and pose the three problems. We will then analyse these problems from the vantage point of modern algebra where we will see that, not only are they *insolvable*, but that the ancient geometers *couldn't have possibly ever proven this*. The talk will conclude with some reflection of what this result means for us, today.