

BI-CO MATHEMATICS COLLOQUIUM

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“Mathematical Impossibilities”

Monday, November 27, 2006

Talk at 4:15 p.m. – KINSC H109
Tea at 4:00 p.m. – KINSC L208, Math Lounge

Abstract: Can anything intelligible be said about what would be the case if the mathematical facts were radically different from how they actually are? What if there were no numbers at all? What if 4 was prime rather than composite? What if the square root of 2 were rational? These kinds of questions are referred to as counterfactuals. Philosophers have produced several methods for evaluating counterfactuals, but these tend to break down for mathematical examples. My talk will be in two parts. In the first part I briefly survey different philosophical accounts of mathematics, showing how these give different degrees of impossibility to mathematical counterfactuals. In the second part I give some examples from mathematical practice where mathematical counterfactuals play an interesting role. No philosophical background will be presupposed.

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