



RUMA

Rutgers Undergraduate Mathematics Association

presents...

LARGE CARDINALS AND DETERMINACY

A Lecture by Simon Thomas

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Abstract

For each subset $S \subseteq [0,1]$, let $G(S)$ be the two player game in which:

- Players I and II alternately choose decimal digits

$$d_1, d_2, d_3, d_4, \dots, d_{2n+1}, d_{2n+2}, \dots$$

- Player I wins if and only if the real number

$$d = 0.d_1d_2d_3d_4 \dots d_{2n+1}d_{2n+2} \dots$$

is an element of S .

A subset $S \subseteq [0,1]$ is said to be *determined* if one of the two players has a winning strategy in the game $G(S)$. In this talk, we will consider the question of which subsets $S \subseteq [0,1]$ are determined. As we will see, this question is intimately related to existence of *large cardinals*; i.e. cardinals that are so large that they can prove the consistency of their own nonexistence.

WEDNESDAY
OCTOBER 25, 2017
HILL 425 AT 7:00 PM

Pizza and refreshments will be served