

SBU Math Club Student Talk: Games in Model Theory

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04/17/19

We will go over the basic definitions and theorems of First Order Model Theory, giving sketches of proofs and lots of examples. We will prove the compactness theorem and the Lowenheim-Skolem theorem, as well as discuss elementary equivalence and quantifier elimination. Finally we will talk about the Ehrenfeucht-Fraïssé games and their use in telling two non elementarily equivalent structures apart, finding an elimination set for a theory, and telling whether a theory has quantifier elimination.