

## **MATHEMATICAL LOGIC — ASSIGNMENT THREE**

- (1) Prove that every infinite ordinal can be written as the ordinal sum of a limit ordinal and a finite ordinal.
- (2) State and prove the Schröder-Bernstein Theorem.
- (3) Illustrate the Gödel-Gentzen translation. Show two formulae which are equivalent in classical logic but not equivalent in intuitionistic logic.

Each question is worth 12 points. The points in all the four assignments will be added together and the result will be divided by 4, and this will be the final result. Remember to mark your answer sheet with your name.

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*Date:* January 10<sup>th</sup>, 2019.