MATH 113: STUDY GUIDE FOR QUIZ 2

Most of this quiz is about first-order logic, with a little bit of modal logic. The quiz has six questions, split across the following categories. Like with the previous quiz, some of these categories will give you a choice of which question(s) to answer. None of the questions are directly about TFL, but of course TFL is the foundation for FOL and ML.

- **First-order logic.** Know the vocabulary of FOL and how to work with interpretations. Know the meaning of entailment $\models$ and the derived concepts. Know how to build counter-interpretations.
- **Modal logic.** Know the vocabulary of ML and how to work with interpretations (i.e. frames). Know the meaning of entailment $\models$ and the derived concepts. Know how to build counter-interpretations.
- **Concepts.** Be able to write about the concepts. Know how to define them, and how to work with them.

Note Sheet

For the quiz you are allowed a single sheet of paper (standard 8.5 by 11 size, front and back) for notes to reference during the quiz. Here's some suggestions for what to put on your note sheet.

- Any definitions you don't feel you have confidently memorized.
- The truth tables for the logical connectives.
- Short definitions and examples of interpretations for FOL and ML.
- Short descriptions of the algorithms/processes used to check different properties.
- The principal rules for the different ML systems, and the corresponding frame conditions.
- A reminder that you've got this and will ace the quiz.