

# Review for Math 2300 Quiz 1, Spring 2019

The following is meant to provide guidance about the topics that are likely to appear on Quiz 1, however it is not meant to be an exclusive list.

## Bring to Quiz

- Pencils and Eraser (extras are good, pens are discouraged)
- One 3 inch by 5 inch card, with writing on one side in your handwriting (optional)

## Provided at the Quiz

- Quiz
- Scratch paper

## How to Study

- Work Problems (using your 3x5 card)
  - Homework
  - Similar problems in the book that were not assigned but have answers in the back
  - Examples in the book (cover up everything by the prompt and work it, then check)
- Review Lecture Notes
- Review Book
  - Look at Chapter Summaries
  - Drill down on concepts you didn't understand the first time
- Come to office hours / form a group to work on problems

## Material to Review

Chapter 2, Sections: 1, 2, 3

Chapter 3, Sections 1, 2, 3, 4

### 2.1

Statements  
Statement forms  
Tautology and Contradiction  
De Morgan's Laws  
Logical Equivalence  
Truth Tables  
Using Theorems

### 2.2

Conditional statements and statement forms  
Contrapositive, Converse, Inverse, Biconditional  
Negation  
 $p \rightarrow q \equiv \sim p \vee q$   
translate, negate, translate

## 2.3

Valid and Invalid Argument Forms  
Argument vs. Argument Form  
Test critical rows in truth tables  
Use rules of logical inference  
Modus Ponens, Modus Tollens, Transitivity  
Converse and inverse errors  
Truth vs Validity

## 3.1

Predicates  
Quantifiers (Universal and Existential)  
Domains  
Truth sets  
Translate

## 3.2

Negation of statements with predicates  
Universal Conditional  
Contrapositive, Converse, Inverse, Bi-conditional  
Translate, negate, translate

## 3.3

Statements with multiple quantifiers  
Translate  
Negate

## 3.4

Arguments with quantified statements  
Universal Modus Ponens, Tollens  
Validity  
There will NOT be problems to show validity with diagrams