

EECS 203: Discrete Mathematics

Winter 2024

Discussion 1a Notes

1 Definitions

- **Proposition:**
- **Proof:**
- **Negation:**
- **Disproof/Refutation:**
- **Even:**
- **Odd:**

2 Exercises

1. Meet your Classmates! ★

Say hello to your classmates. Your peers are an amazing resource, so this exercise is to help you meet some of them.

Tip: One of the questions in Homework 1 is to give some classmates' names and usernames, so this is your head start on that!

In a group of 3 or more:

- Introduce yourself
- Write down each others' names and usernames
- Find one thing you all have in common

2. Propositions ★

Which of these are propositions? What are the truth values of those that are propositions?

- a) Do not pass go.
- b) What time is it?
- c) There are no black flies in Maine.
- d) The moon is made of green cheese.
- e) $2^n \geq 100$
- f) Your discussion leader's favorite number is 2
- g) $4 + x = 5$

3. Beginning to Think Logically ★

Find the negations of each of the following statements. Discuss with a neighbor what that negation means and if there are any other ways to express that statement. (*We will formally define some rules for logic later on.*)

- a) I am a student.
- b) My sister and my mom like ice cream.
- c) I will wear a dress or skirt today.
- d) We all have phones.
- e) Nobody knows everything.
- f) Someone in this class is a math major.

4. Logic Puzzle

Knights always tell the truth and Knaves always lie. Figure out what A and B are in each scenario!

- a) A says, "Either I am a Knave, or B is a Knight."
- b) A says, "I am a Knave, but B isn't."

5. Assignment 0

Remember that Assignment 0 is due on **Thursday, January 18th**. This is a great time to get started and maybe even finish it!