

CIS 1600

## Recitation Guide - Week 2

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**Topics Covered:** Proofs, Counting

**Problem 1:** Let  $m$  and  $n$  be two integers. Prove that  $mn + m$  is odd if and only if  $m$  is odd and  $n$  is even.

**Problem 2:** Let  $A = \{n \mid n = 2k + 5 \text{ for some } k \in \mathbb{N}\}$  and  $B = \{n \mid n = 2j + 1 \text{ for some } j \in \mathbb{N}\}$ .  
Is  $A \subseteq B$ ?

**Problem 3:**

Count the number of sequences of bits of length 5 in which every 0 is followed immediately by a 1.