

COM S 381 Homework 1
Due date: Friday, May 25

Problem 1. Prove by induction that for all $n \in \mathbb{N}$:

a) $4|(5^n - 1)$

b) If A is a set of size n , then $|\mathcal{P}(A)| = 2^n$.

Problem 2. Do parts c) and d) of exercise **2.2.5** on page 54.

Problem 3. Do exercise **2.3.3** on page 67.

Problem 4. Do part b) of exercise **2.3.4** on page 67.