

# Logics and Mathematics – 4<sup>th</sup> lecture

## Exercise sheet

Preining Norbert

**Problem 1** Prove the following equation:

$$\sum_{i=1}^n (2i - 1) = n^2$$

**Problem 2** Fibonacci numbers:

$$f_0 = 0$$

$$f_1 = 1$$

$$f_{n+2} = f_n + f_{n+1}$$

Prove the following equation:

$$\sum_{i=1}^n f_i^2 = f_n f_{n+1}$$