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

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**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:

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