

Math 251: Foundations of Advanced Mathematics

Individual Problems #3

1. Prove: $\sum_{i=1}^n i^2 = \frac{n(n+1)(2n+1)}{6}$.
2. Prove: If n is divisible by 5, then the Fibonacci number f_n is divisible by 5.
(Hint: What is the definition of “divisible by 5”?)
3. Exercise 3.3.4.