

# 189-346/377B: Number Theory

## Assignment 7

Due: Monday, April 2

1. Section 9.2., Problem 1.
2. Section 9.2., Problem 3.
3. Section 9.3., Problem 1.
4. Section 9.3., Problem 4.
5. **377**: Read section 9.1., particularly Theorems 9.1 and 9.2. Show that the  $p$ -adic number

$$p + p^2 + p^6 + p^{24} + \cdots + p^{n!} + \cdots$$

is transcendental.