

# Assignment 7

## Mandatory questions to be answered orally

From the yellow book: Exercises 1.2, 1.4, 1.8a, 3.6, 4.6, and 4.12.

## Mandatory question to be answered in writing

1. Exercise 4.14 from the yellow book.

## Bonus question

1. Prove that, given any two rational numbers  $a/b$  and  $c/d$  such that  $a/b < c/d$ , there is a rational number  $p/q$  satisfying

$$\frac{a}{b} < \frac{p}{q} < \frac{c}{d}.$$

Do not use any property, or even the notion of real numbers in your proof.