Introduction to Abstract Mathematics
Spring 2017

Assignment 2.3
Due January 27

Exercise 1. Textbook exercises 2.2.2abd, 2.2.3, 2.2.6, 2.2.7.

Exercise 2. The technical definition of the statement $\lim_{x\to 0^+} \frac{1}{x} = \infty$ is the following: for any $M > 0$ there is an $\epsilon > 0$ so that $\frac{1}{x} > M$ whenever $0 < x < \epsilon$.

a. Express this statement symbolically.

b. Negate the symbolic expression in part **a**, and write a (meaningful!) equivalent statement in English.

c. Prove or disprove the original statement.

Exercise 3. Negate the uniqueness quantifier (see p 68) and express the negation in English.