Homework 6 Introduction to Mathematical Proof, MTH 301, Fall 23 Instructor: Abhijit Champanerkar Points: 30 Due: Wednesday Nov 8th, 2023



Reading: Its really important in this class that you read the book carefully, working through the Explorations and GYHD's as you go.

1. Sections 3.1 (Negations), 3.2

Homework Problems (from text book):

Section 3.1, Pages 104-105: 6, 9 Section 3.2, Pages 124-126: 5, 6, 7, 8, 9, 11, 12, 15

Handin Problems: These problems are to be handed in class. Write up clear solutions to the following problems.

Section 3.1, Pages 104-105: 6c

Section 3.2, Pages 124-126: 9, 11ab, 12ab

Write negation of the following statements.

- 1. $(\forall x \in \mathbb{R})(x+1 \ge x)$
- 2. $(\forall x \in \mathbb{R})(\exists y \in \mathbb{R})(x + y = 0)$
- 3. $(\exists n \in \mathbb{Z})(n^2 = 2)$