# HOMEWORK 4

## MATH 2001

QI WANG

ABSTRACT. This is the first homework assignment. The problems are from Hammack [**?**, Ch. 2]:

- **Chapter 2 Section 2.1**, Exercises: 2, 4, 6. **Section 2.2**, Exercises: 2, 6. **Section 2.3**, Exercises: 8, 10. **Section 2.4**, Exercises: 4.

## CONTENTS



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## CHAPTER 2 SECTION 2.1

**Ch.2, §2.1, Exercise 2.** Decide whether or not the following are statements. In case of a statment, say if it is true or false, if possible: "Every even integer is a real number."

*Solution to Ch.1, §2.1, Exercise 2.*

It is a statement.

It is true.

□

**Ch.2, §2.1, Exercise 4.** Decide whether or not the following are statements. In case of a statment, say if it is true or false, if possible: "Set $\mathbb{Z}$ and set $\mathbb{N}$"

*Solution to Ch.1, §1.1, Exercise 8.*

It is not a statement.

□

**Ch.2, §2.1, Exercise 6.**

*Solution to Ch.1, §2.1, Exercise 6.*

It is a statement.

It is true.

□

**Ch.1, §1.1, Exercise 30.**

*Solution to Ch.1, §1.1, Exercise 30.* □

**Ch.1, §1.1, Exercise 38.**

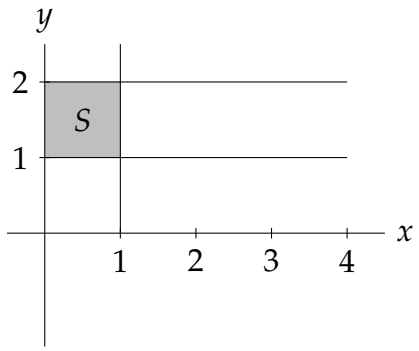
*Solution to Ch.1, §1.1, Exercise 38.* □

**Ch.1, §1.1, Exercise 40.** Sketch the following set of points in the $x, y$-plane:

$$S = \{(x, y) : x \in [0, 1],\ y \in 1, 2]\}$$

*Solution to Ch.1, §1.1, Exercise 40.* For this problem I first sketched my own solution by hand. However, to implement my solution in LaTeX, I modifed the tikz code from the webpage:

https://tex.stackexchange.com/questions/140312/tikz-shading-region-bounded-by-s




□

UNIVERSITY OF COLORADO, DEPARTMENT OF MATHEMATICS, CAMPUS BOX 395, BOULDER, CO 80309-0395

*Email address*: casa@math.colorado.edu