

Reading

- Chapters 14 (again), 15, 16.

Short Answers

For the following problems, give answers only; no proofs are necessary (even if the book asks for them).

- Pages 158–161, Problems 13.1, 13.3 (see below), 13.8, 13.10.

Notes for Problem 13.3: If the codomain is not specified, you may assume it is \mathbb{R} , except in part (i), where it is the same as the domain. For part (a), interpret f as a subset of $\mathbb{R} \times \mathbb{R}$, i.e., a relation from \mathbb{R} to \mathbb{R} . For each part, just answer Yes or No to the following three questions:

- (a) Is f everywhere defined (i.e., does it satisfy condition (i) in the definition of a function)?
- (b) Is f consistently defined (i.e., does it satisfy condition (ii))?
- (c) Is f a function?

- Pages 170–173, Problem 14.8 (just determine the range of each function).

Long Answers

- Pages 170–173, Problem 14.2.
- Define $f: \mathbb{R} \setminus \{-1/2\} \rightarrow \mathbb{R}$ by

$$f(x) = \frac{1+x}{1+2x}.$$

Determine the range of f , and prove your answer correct.

For Fun and Practice

These need not be handed in; but if you want to hand them in with your Long Answers, I'll look at them.

- Pages 158–161, Problems 13.11, 13.13.
- Pages 170–173, Problems 14.6.