

MATH 513 HOMEWORK 6, SPRING 2019

DUE AT THE BEGINNING OF CLASS ON WEDNESDAY, MARCH 27

One goal for this course is for you to develop your skill in effectively communicating mathematics. With this in mind, you should clearly write up your solutions. Solutions with little or no justification will receive little or no credit.

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- (1) Read chapter 4 through 4.4.
- (2) Let (s_n) denote a sequence that satisfies the relation
$$|s_{n+1} - s_n| < 2^{-n}$$
for all $n \in \mathbb{N}$. Prove that (s_n) is a Cauchy sequence.
- (3) In section 4.3 do exercises 5, 7, and 13.
- (4) In section 4.4 do exercises 4, 5-pick any three parts, 8, and 10.