

Math 140A: “Winter” 2016

Homework 1

Available	Friday, January 1		Due	Friday, January 8
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Turn in the homework by 5:00pm on Friday, January 8, in the homework box in the basement of AP&M. Late homework will not be accepted.

1. Exercise 1, p. 21 in Rudin.
2. Exercise 4, p. 22 in Rudin.
3. Exercise 5, p. 22 in Rudin.
4. Exercise 8, p. 22 in Rudin.
5. Let $(S, <)$ be a totally ordered set, and suppose that $E \subseteq S$ has a maximal element $\max E$. Show that $\max E = \sup E$.
Conversely, suppose that $\sup E$ exists in S and, in fact, $\sup E \in E$. Show that $\sup E = \max E$.