Feedback — Problem Set 8

Help

You submitted this homework on **Sat 22 Nov 2014 9:55 PM PST**. You got a score of **22.00** out of **24.00**.

This problem set focuses on material covered in Week 8 (Lecture 10), so I recommend you to watch the lecture and attempt Assignment 10 (both parts) before submitting your answers. The deadline for completing (and submitting) the problem set is Monday November 24 at 9:00AM US-PST. Note that you can save your entries as you work through the problems, and can change them at any time prior to submission, but once you submit your answers no further changes are possible. Note: A downloadable PDF file of this problem set is supplied as an asset to Lecture 10C.

Question 1

Say which of the following are true. (Leave the box empty to indicate that it's false.) [4 points]

Your Answer		Score	Explanation
☑ A set A of reals can have at most one least upper bound.	✔	1.00	
☐ If a set A of reals has a lower bound, it has infinitely many lower bounds.	✖	0.00	
☑ If a set A of reals has both a lower bound and an upper bound, then it is finite.	✖	0.00	For example, the real interval $(0,1)$ as lower and upper bounds but contains infinitely many real numbers.
☐ 0 is the least upper bound of the set of negative integers, considered as a subset of the reals.	✔	1.00	The least upper bound of the negative integers is -1.
Total		2.00 / 4.00	

Question 2

Which of the following say that b is the greatest lower bound of a set A of reals? (Leave the box empty to indicate that it does not say that.) [5 points]

Your Answer		Score	Explanation
☑ $b \leq a$ for all $a \in A$ and if $c \leq a$ for all $a \in A$, then $b \geq c$.	✔	1.00	
☐ $b \leq a$ for all $a \in A$ and if $c \leq a$ for all $a \in A$, then $b > c$.	✔	1.00	
☐ $b < a$ for all $a \in A$ and if $c < a$ for all $a \in A$, then $b \geq c$.	✔	1.00	
☐ $b < a$ for all $a \in A$ and if $c \leq a$ for all $a \in A$, then $b \geq c$.	✔	1.00	
☑ $b \leq a$ for all $a \in A$ and if $\epsilon > 0$ there is an $a \in A$ such that $a < b + \epsilon$.	✔	1.00	
Total		5.00 / 5.00	

Question 3

Evaluate this purported proof, and grade it according to the course rubric. Enter your grade (which should be a whole number between 0 and 24, inclusive) in the box. You should come within 4 points of the instructor's grade for full marks [5 points], within 6 points for partial marks [3 points].].

You should read the website section "Using the rubric" (it includes a short explanatory video) before attempting this question.

You entered:

20

Your Answer		Score	Explanation
20	✔	5.00	Good grade. This proof is fine. I gave it 24. SEE THE TUTORIAL VIDEO.
Total		5.00 / 5.00	

Question 4

Evaluate this purported proof, and grade it according to the course rubric. Enter your grade (which should be a whole number between 0 and 24, inclusive) in the box. You should come within 4 points of the instructor's grade for full marks [5 points], within 6 points for partial marks [3 points].

You entered:

15

Your Answer		Score	Explanation
15	✔	5.00	Good grade. The only error is that it does not start out saying "Let $\epsilon > 0$ be given." My scoring was 4, 4, 0 (missing initial assumption), 4, 4, 0 (that missing initial assumption is significant). Total 16. WATCH ME GRADE IT.
Total		5.00 / 5.00	

Question 5

Evaluate this purported proof, and grade it according to the course rubric. Enter your grade (which should be a whole number between 0 and 24, inclusive) in the box. You should come within 4 points of the instructor's grade for full marks [5 points], within 6 points for partial marks [3 points].

You entered:

24

Your Answer		Score	Explanation
24	✔	5.00	Good grade. The given proof is perfectly correct. I gave it full marks. WATCH ME GRADE IT.
Total		5.00 / 5.00	