24.118 – Paradox and Infinity
Problem Set 1: Zeno's Paradoxes

How this problem set will be graded:

- Assessment will be based on the *reasons* you give in support of your answers, rather than the answers themselves. (Keep in mind that even if it is unclear whether your answer is correct, it can be clear whether or not the reasons you have given in support of your answer are good ones. It is only the latter that will be taken into account.)

- *No answer may consist of more than 150 words.* Longer answers will not be given credit.

These two constraints are often in competition: it may sometimes seem to you that you can't argue for your answer properly in 150 words or less. Learning to deal with this problem is a skill you will acquire with practice. The ability to distill what is essential about a point in a few words requires clear thinking, and it is clear thinking I am after.

Problems:

1. Can the version of the generalized principle of distribution appealed to in footnote 3 of Sainsbury (chapter 1) be justified on mathematical grounds?

2. Answer the question in footnote 4 of Sainsbury (chapter 1).

3. Answer the question in footnote 5 of Sainsbury (chapter 1).

4. Answer the question in footnote 7 of Sainsbury (chapter 1).

5. Is it logically possible for there to be a Thomson's Lamp?

6. What is Sainsbury's solution to the version of the Racetrack Paradox presented in §1.4?

7. Does Sainsbury's solution work?

(Each problem is worth a maximum of 5 points.)