

HW 1: due Mon, September 14th

Part I: From Raymond Smullyan's *What is the Name of this Book?*:

When Alice entered the Forest of Forgetfulness, she did not forget everything, only certain things. She often forgot her name, and the one thing she was most likely to forget was the day of the week. Now the Lion and the Unicorn were frequent visitors to the forest. The Lion lies on Mondays, Tuesday, and Wednesdays, and tells the truth the other days of the week; the Unicorn, on the other hand, lies on Thursday, Fridays and Saturdays, but tells the truth on the other days of the week.

1. One day, Alice met the Lion and the Unicorn resting under a tree. They made the following statements:

Lion Yesterday was one of my lying days.

Unicorn Yesterday was one of my lying days too.

What day(s) of the week could it be? Explain your answer carefully.

2. On another occasion, Alice met the Lion alone. He made the following two statements:

(a) I lied yesterday.

(b) I will lie again two days after tomorrow.

What day(s) of the week could it be? Again, explain your answer carefully.

3. On what days of the week is it possible for the Lion to make the following two statements (again, explain your answer carefully).

(a) I lied yesterday.

(b) I will lie again tomorrow.

4. On what days of the week is it possible for the Lion to make the following single statement (again, explain): "I lied yesterday and I will lie again tomorrow"

Part II, from *Richmond and Richmond* do problems:

Section 1.4 (pp.32-34): 3abcd, 8ab, 12