

Introduction to Logical Reasoning

Problem Set #11

Although I strongly suggest that you write out answers to all these problems, *you do not have to turn in any written responses*. You do, however, need to be prepared to do these types of problems, for *questions on the weekly quizzes and exams will primarily be drawn from the problem sets*. The solutions to these problems will be provided, so you can check your own work and seek help from me as necessary.

We will devote considerable time to these problems during the next in-class workshop. In order to make that workshop productive, please make a solid start on them. That way we can use the workshop to look at the problems that presented the most difficulties.

If you do the Extra Credit Logic Puzzle, you must turn in your *type-written* solution at the *beginning* (i.e., within the first ten minutes) of class on Sunday, April 3rd.

Instructions

Each of the following problems presents a categorical statement. For each, (i) state the subject and predicate, (ii) identify the statement's logical form, (iii) draw its Venn diagram, labeling the parts, and (iv) state the proposition's quality and quantity.

Part A: Do the statements in Exercise 7.1 on page 255 from *The Power of Critical Thinking* by Lewis Vaughn.

Part B: Do the statements in Exercise 7.2 on page 263 from *The Power of Critical Thinking* by Lewis Vaughn.

Part C: Do the statements in Exercise 7.4 on page 268 from *The Power of Critical Thinking* by Lewis Vaughn.

Note: There may a lot of exercises here. Do not feel obligated to do all of them. I often assign many exercises so that you have plenty of opportunities to practice the skills these exercises are trying to impart. I suggest doing just enough of them so that you are confident that you could use these skills on a quiz or an exam.

Extra Credit Logic Puzzle (Hard)

In Washington, D.C., politicians never ever tell the truth, and all non-politicians always tell the truth. Suppose you are working at a hospital in Washington, D.C. You are assisting Dr. Torres, a non-politician, in an amputation, but she has forgotten which leg to cut off! Torres tells you that the patient's doctors, Grey and Yang, know which leg is being amputated, so she sends you to find one of them and solve this problem. However, Torres warns you that one of Grey and Yang is a politician and one of them is a non-politician, but Torres forgets who is who. Leaving the operating room, you immediately run into Dr. Grey.

Question: What one question can you ask Dr. Grey to find out which leg to amputate?

To receive any credit you must justify your answer with a logical argument showing why you are 100% right. That is to say, this question has a definitive answer that can be justified without *any* guessing on your part.