

Introduction to Logical Reasoning

Problem Set #3

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 types of problems during the next in-class workshop. In order to make that workshop productive, please make a solid start on them. That way you can use the workshop to address the difficulties you are facing.

If you do the extra credit logic puzzle, you must turn in a computer-type-written solution at the beginning of class on Sunday, September 23rd.

Instructions

Each of the following problems presents an argument. For each argument, (1) circle and denote with a C the argument's main conclusion; (2) underline and number each premise and sub-conclusion (if any); and (3) arrange these into an argument map that faithfully represents the argument as given.

For each argument map, put boxes around the statements and use arrows to indicate inferential support, arranging these in a clear way that is visually easy to follow. It is okay if you just put a label into each box and not write out the full proposition. Remember that there is a difference between (A) two claims that must be used *together* to support another claim and (B) two claims that *separately* support another claim.

Problems

Part A: Do the arguments in Exercise 3.9 on pages 103–105 from *The Power of Critical Thinking* by Lewis Vaughn.

Part B: Do the arguments on pages 48–50 from the Irving Copi and Carl Cohen handout on "Diagramming Arguments".

Part C: Do the arguments on pages 50–53 from the Irving Copi and Carl Cohen handout on "Diagramming Arguments".

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

On September 1, 2012, there was a murder on the Qatar Airways flight to Washington, D.C.! This was a training flight, so the only people on the plane were the flight crew, consisting of Rayhan, Mohammed, Ayah, Hafsa, and Reema. Today it is September 16, 2012. The following statements are known to be true:

1. One member of the flight crew shot and killed one of the other four.
2. The murderer is Reema's twin. They were born in Doha and grew up together there.
3. Last year, Hafsa smoked sheesha every weekend.
4. Yesterday, Rayhan asked Mohammed if he could fly Mohammed's new airplane.
5. Ayah considered being a falcon breeder in North Africa before she moved to Doha from Egypt four months ago.
6. The murderer had his or her leg amputated two days ago.
7. Mohammed met Reema for the first time one month ago.
8. Rayhan and Mohammed once flew Mohammed's old plane together.
9. Reema has been in seclusion since the crime.
10. Hafsa biked from Doha to Dukhan back to Doha yesterday with one of the innocent persons.

Question: Which one of the group committed the murder? Which one was the murder victim?

To receive full 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.