Phil. 103: Introduction to Logic
The Structure of Arguments

Spring 2008

1 Diagramming Arguments

Directions: *First*, indicate whether each problem below is an arguments. If a passage is not an argument, explain why it is not. *Second*, if the passage is an argument, diagram the structure of the argument by referring to the numbered statements and by using conventional diagramming symbols. *Third*, state whether the argument is deductive or inductive. (40 points)

1. (1) Looking *up* at a painting is different from simply looking *at* a painting, (2) for there is an element of awe in the experience of looking at what is above us, particularly when it is at considerable height.

2. (1) Microbes can acclimatize themselves to such substances as sulphonamides and antibiotics if they encounter them in small doses. (2) Therefore, when using these drugs in practice, it is important to give as massive a dose as the patient will tolerate right at the start.

3. (1) John didn't get much sleep last night. (2) He has dark circles under his eyes, and (3) he looks tired.

4. (1) Questionable research practices are far more common than previously believed (2) since the Acadia Institute found that 44 percent of students and 50 percent of faculty from universities were aware of cases of plagiarism, falsifying data, or racial discrimination.

5. (1) [D]ay could not be called the cause of night, (2) because it would not be followed by night if the earth's rotation were to cease.

6. (1) No one has directly observed a chemical bond, (2) so scientists who try to envision such bonds must rely on experimental clues and their own imaginations.

7. (1) Since reduction of sodium may prevent the development of hypertension in some people and (2) since a high-salt diet is almost certainly not beneficial, (3) reduced salting of food and reduced consumption of salty snack foods is probably a good idea.

8. (1) If we are open to our experience, (2) then doing what "feels right" proves to be a competent and trustworthy guide to behavior which is truly satisfying.

9. (1) People say that a dog "knows" its name (2) because it comes when it is called, and (3) that it "remembers" its master, (4) because it looks sad in his absence, but (5) wags its tail and barks when he returns.

10. (1) That no sensation is ever completely public, results from differences of point of view. (2) Two people looking at the same table do not get the same sensation, (3) because of perspective and the way the light falls.

2 Statements

Directions: Study the following sentences. Answer whether or not the sentence is a statement. If a sentence is not a statement, explain why it is not a statement. (20 points)

1. What is so rare as a day in June? (Lowell, *The Vision of Sir Launfal*)
2. Consider the choices of your avocation carefully.
3. Mental activity is exhibited whenever electrical activity is present in neural pathways.
4. Not all mathematical statements can be reduced to set theory.
5. Be careful of what you pretend to be, for that you surely could become.
6. Tomorrow it will rain.
7. Open the door please.
8. Whales are reptiles.
9. My birthday was an awesome day!
10. If you study consistently, your grade in logic will improve.

3 Validity and Soundness

Directions: Carefully study statements 1-10. Decide whether each statement is true or false, and write in the spaces provided the word "true" or the word "false" in accordance with your decision. (10 points)

1. _____ A sound argument is a valid deductive argument with true premisses.

2. _____ All valid deductive arguments are arguments with true premisses.

3. _____ A deductive argument cannot be both invalid and sound.

4. _____ An invalid deductive argument could have all true statements in it.

5. _____ In a valid deductive argument, the conclusion is always true.

6. _____A deductive argument could have one false premiss and still be sound.

7. _____ If a deductive argument is sound, then the conclusion must always be true.

8. _____When the premisses of a deductive argument are true, the conclusion must be true as well.

9. _____ When the conclusion of a deductive argument is true, the argument is always sound.

10. _____ A deductive argument can be either valid or invalid and still have true premisses.

4 Argument Indicators

Directions: Assume that each word or phrase given below appears before a statement. Is the statement that follows most probably a reason, a conclusion, or neither? Put a check in the appropriate column. (20 points)

Word	Reason	Conclusion	Neither
1. hence			
2. because			
3. but			
4. thus			
5. for			
6. accordingly			
7. for			
8. therefore			
9. since			
10. however			

5 Short Essay

Directions: Define the terms in the following exercises and give an *specific* example of each term. (10 points)

1. statement and sentence which is not a statement

2. inductive and deductive argument

NAME _____