

Phil. 103: Introduction to Logic

Test 1: The Structure of Arguments

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1 Diagramming Arguments

Directions:

First, indicate whether the passages quoted below are arguments or not. If the passage is not an argument, tell why it is not. *Second*, only if the passage is an argument, diagram the structure of the argument by referring to the numbered statements using conventional diagramming symbols. (40 points)

1. (1) The Roman Empire collapsed because (2) it lacked the spirit of liberalism and free enterprise.

2. (1) The earth cannot be the center of the universe (2) as planets are seen at vastly different distances from earth at different times of the year.

3. (1) There is probably gold in Abbeville County because (2) Ranson's *Gems and Minerals of America* lists this area as a place to dig for gold.

4. (1) I know that God exists because (2) the world is so well ordered by scientific law, and (3) this order cannot be due to chance alone.

5. (1) Trans-fatty acids in margarine raise levels of cholesterol in the blood more than saturated fats in butter raise level of cholesterol. (2) For this reason, butter might be more healthful than margarine.

6. (1) If Lander is one of the best colleges in South Carolina, (2) then I guess that you should go there.

7. (1) Coal seams have been discovered in Antarctica. (2) This means that the climate there was once warmer than it is now. (3) Thus, either the geographical location of the continent has shifted or the whole Earth was once warmer than it is now.

8. (1) A just society cannot possibly pay everyone the same income, since (2) the attitudes and efforts of individuals diverge dramatically, and since (3) the common good is far better served by systematic inequalities of reward.

9. (1) Because houses with pets have higher amounts of bacterial-breakdown products than pet-free homes do, and (2) these products force the immune system to develop response patterns making the immune system less sensitive to allergens later in life, (3) scientists conclude that children who never had pets around are far more likely to have allergic responses as were children exposed to pets.

10. (1) Copi's *Introduction to Logic* is a confusing book, since (2) if I understand what he has written, he is mixed up in his thinking, and (3) if I don't understand what he has written, then he is confused in his writing.

2 Truth, 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. (20 points)

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

3 Conclusion and Premiss 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. and			
3. but			
4. thus			
5. since			
6. accordingly			
7. for			
8. therefore			
9. as a result			
10. because			

4 Short Essay

Directions: Explain the difference between the terms in the following tions (20 points)

1. statement and sentence which is not a statement

2. inductive and deductive argument

3. valid argument and sound argument

5 Optional Question

Directions: Using conventional diagramming symbols, diagram the following argument. (5 points)

(1) With regard to good and evil, these terms indicate nothing positive in things considered in themselves, nor are they anything else than modes of thought, or notions which we form from the comparison of one thing with another. (2) For one and the same thing may at the same time be both good and evil or indifferent. (3) Music, for example, is good to a melancholy person, bad to one in mourning, while to a deaf man it is neither good nor bad.

NAME _____