1 Diagramming Arguments

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

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

2. (1) Eternity is simultaneously whole. (2) But time has a before and an after. (3) Therefore, time and eternity are not the same thing.
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) Since the study of science not only gives insight but also fosters intellectual comprehension of any subject, (2) it stands to reason that the study of science is essential for the learning of any new subject.

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) Joe probably will have heart problems in the future because (2) he has creased ear lobes and a depressed sternum and (3) these characteristics have been associated with heart attacks.

10. (1) Tsunamis spreading from Peru had little to do with freeing the iceberg named B115 because (2) the iceberg was moving down the coast before the tsunamis arrived.
2 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.

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 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)

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<th>Reason</th>
<th>Conclusion</th>
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4 Short Essay

*Directions:* Explain the difference between the terms in the following exercises and give an *specific* example of each term. (20 points)

1. statement and sentence which is not a statement

2. inductive and deductive argument