Extras!!! True or False? Why? Can you define the key terms?

1. An argument is DEDUCTIVE if all the premises are true, and the conclusion is true.

2. All DEDUCTIVE arguments are VALID.

3. A DEDUCTIVE argument is VALID if all the premises are true.

4. A DEDUCTIVE argument is VALID if the conclusion is true.

5. A DEDUCTIVE argument is VALID if all the premises are true, and the conclusion is also true.

6. A DEDUCTIVE argument is VALID if the truth of the premises would guarantee the truth of the conclusion.

7. A DEDUCTIVE argument is SOUND if all the premises are true, and the conclusion is also true.

8. A DEDUCTIVE argument is SOUND if all the premises are true, and the conclusion is also true, and the conclusion strictly (i.e., without qualification) follows from the premises.

Answers:
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DEDUCTIVE = You have claimed a relationship of certainty exists between the premises and the conclusion. Therefore, your claim is that the truth of the premises would guarantee the conclusion.
VALID = Your claim about the certain relationship between the premises and conclusion is correct; the truth of the premises really would guarantee the truth of the conclusion.
SOUND= A valid deductive argument with all true premises. Since the premises are all true, and their truth would guarantee the conclusion (that's what "valid" means), the conclusion must be true.

1. False: we must claim a relationship of certainty between the premises and conclusion. 2. False: some deductive arguments fail to achieve the proper relationship between the premises and conclusion. 3. False: what if they are unrelated? 4. False: it must have the proper relationship with the premises. 5. False: what if they are unrelated? 6. True! That's the definition of "valid!" 7. False: what if they are unrelated? "Sound" arguments must be valid. 8. True! That's the definition of "sound."

1. *If two arguments have the same logical form, and one is valid, then the other must be valid.*

   True. Logical form – the structure of the argument -- is the ONLY thing that determines validity. "Valid" means that the premises are logically related to the conclusion in such a way that it is impossible for the premises to be true without the conclusion also being true.

2. *If a deductive argument has true premises, and a true conclusion, then it must be valid.*

   False. "Valid" means that the premises are logically related to the conclusion in such a way that it is impossible for the premises to be true without the conclusion also being true. The answer is "false" since you could have true premises and a true conclusion that were not properly related to one another.

3. *Valid arguments always have a true conclusion.*

   False. "Valid" means that the premises are logically related to the conclusion in such a way that IF the premises are true, then the conclusion WOULD BE guaranteed. If a valid argument has one or more false premises, then the conclusion could be false, even if it does strictly follow from the premises.

4. *Valid arguments always have true premises.*

   False. "Valid" means that the premises are logically related to the conclusion in such a way that IF the premises are true, then the conclusion WOULD BE guaranteed. When you call an argument "valid," you have said nothing about the truth or falsity of the premises.

5. *If a valid argument has true premises, then it must have a true conclusion.*

   True. "Valid" means that the premises are logically related to the conclusion in such a way that IF the premises are true, then the conclusion WOULD BE guaranteed.

6. *An argument is sound if it has true premises and a true conclusion.*

   False. An argument is sound if it meets two criteria:

   1. It must have all true premises.
   2. It must be valid.

   This description satisfies only the first criterion. You don't know whether the argument is valid, since "valid" means that the premises are logically related to the conclusion in such a way that the truth of the premises would guarantee the truth of the conclusion. Here, you don't have any clue about whether the true premises and true conclusion are related to one another.

7. *An argument is inductive if the truth of the premises would not guarantee the truth of the conclusion.*

   False. An inductive argument seeks to show that the truth of the conclusion would be made probable by the truth of the premises. A deductive argument seeks to show that the truth of the conclusion would *strictly* follow (i.e., without qualification) from the truth of the premises. An invalid deductive argument fails to achieve this relationship. So, "the truth of the premises would not guarantee the truth of the conclusion" could describe *either* inductive arguments or invalid deductive arguments.

Extra Practice Exercises

For each of the following, answer "true" or "false." *Explain* your answers. Be sure to define any key terms, at least the first time you use them.

1. If two arguments have the same logical form, and one is valid, then the other must be valid.
2. If a deductive argument has true premises, and a true conclusion, then it must be valid.
3. Valid arguments always have a true conclusion.
4. Valid arguments always have true premises.
5. If a valid argument has true premises, then it must have a true conclusion.
6. An argument is sound if it has true premises and a true conclusion.
7. An argument is inductive if the truth of the premises would not guarantee the truth of the conclusion.

Answers on reverse side ☞

Do not try to memorize these answers verbatim, since you won't be asked these questions verbatim. Strive for understanding. Note that I have sometimes defined terms using slightly different (but logically equivalent) descriptions. Learn to accurately explain the key concepts using your own words and examples.