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➤ Reasoning and Proving:

Before the course, I often mistook the two concepts. But I soon figure out the difference of the two concepts after learning. Reasoning is the process from premises to new conclusion, which is unknown before the reasoning. However, the destination of proving is a specified statement which we have already known. In short, the difference is whether the goal is explicitly specified.

➤ Discovery and Prediction:

They have something in common, i.e., is about unknown and invoke reasoning. Nevertheless, discovery is a process to find out what exists but was previously unknown. Prediction is to foretell the future events which are unknown during the prediction process.

➤ Argument:

In a set of propositions (or statements), some are asserted as to support or evidence (the premises) for another one (the conclusion). The set is an argument.

➤ Deduction, Induction and Abduction:

They are three kinds of arguments. That is why I often cannot distinguish them. Usually, I can recognize them by using “if... then...”.

Deduction: If A then B; A, therefore B.

Induction: If  $A_1$  is a B,  $A_2$  is a B, ...,  $A_n$  is a B, therefore maybe all A's are B.

Abduction: If A then C; C, therefore maybe A.

Among them, abduction is different from the other two since it infers from the conclusion to the premises (from result to cause). Since a deduction makes the claim that its conclusion is supported by its premises conclusively but an induction, in contrast, does not make such a claim. Then, we can distinguish deduction and induction.

(2) 1. True.

2. False. The arguments may have one or more premises but one and only one conclusion.

3. False. An argument can sometimes have just one premise.

4. False. “Since” is a premise indicator.

5. True.

6. False. In the strict sense of the terms, many inferences cluster orderly as an argument.

7. True.

8. True.

9. True.

10. True.

11. True.

12. False. Argument either makes its claim of conclusiveness (explicitly or implicitly) or does not make it, so sometimes argument may be implicit.

13. False. Argument needs premises and conclusion. If one of them is missing in a passage, we cannot guarantee that it is an argument.

14. True.

15. True.

16. True.

17. True.

18. True.

19. True.
20. True.
21. True.
22. True.
23. False. It is an example of a deductive argument.
24. False. Most arguments based on statistical reasoning are inductive because induction needs much data. Besides, statistical reasoning and induction do not make a claim conclusively but deduction do.
25. True.
26. False. Deduction: If A then B; A, therefore B. Deduction claims to provide conclusive grounds for its conclusion but not things' similarity.
27. False. Deduction: If A then B; A, therefore B. The conclusion of deduction is claimed to follow from its premises with absolute necessity but not one's saying.
28. False. Induction: If  $A_1$  is a B,  $A_2$  is a B, ...,  $A_n$  is a B, therefore maybe all A's are B. Induction claims that its premises give only some degree of probability to its conclusion. Eliminating one from two giving alternatives and leaving the other as the conclusion is not an induction.
29. True.
30. False. A deduction does not depend on the phase used. It depends on the connection of the premises and the conclusion.
31. True.
32. False. Not "always". Sometimes may be from particular or general to particular.
33. False. Not "always". Sometimes may be from particular to particular or general.