

Classify each hypothetical deductive argument as a counterexample, the law of cases, the law of contradiction, or the law of deduction.

1. Assume that ogres are real for purposes of argument. If they are real, why hasn't anyone seen one? This shows that ogres must be fictitious after all.
law of contradiction
2. Assuming that it snows this winter, the waterfall will flow well in the spring. However, even if it does not snow, the waterfall should still flow from the spring rains.
law of cases
3. Supposing that people are good, you can see why there is good in the world. However, it is difficult to explain all the evil. Where could it have come from if people are good? On the other hand, if people are evil, then it is easy to explain both the bad and the good.
law of contradiction
4. Indian pipe is a completely white plant. It shows that not all plants use photosynthesis.
counterexample
5. In a medical lab, technicians gave gerbils a certain drug. The movements of all the gerbils given the drug became sluggish. Therefore, the drug causes sluggishness.
law of deduction
6. Whenever José throws a curve ball to Ben, Ben gets a strike. Therefore, in Ben's batting, curve balls cause strikes.
law of deduction
7. Fred will be playing Steve in chess tomorrow. In the past, when Fred made the first move, Steve won. However, Steve also won when he made the first move. Either way, Steve won, so Steve is the favorite in tomorrow's chess match.
law of cases

Give the correct conclusion to the pair of premises given.

8. $A \rightarrow B$
 $A \rightarrow \sim B$ **$\sim A$**
9. $A \rightarrow B$
 $\sim A \rightarrow B$ **B**

Provide the reason for each step in the proof of $M \vee (N \wedge P) \rightarrow (\sim N \rightarrow M)$.

10. $M \vee (N \wedge P)$
given
11. $\sim M$
assumed
12. $N \wedge P$
disjunctive syllogism
13. N
simplification argument
14. $\sim M \rightarrow N$
law of deduction
15. $\sim N \rightarrow M$
contrapositive rule

Provide the reason for each step in the proof of $[(A \vee B) \rightarrow \sim A] \rightarrow \sim A$.

16. $(A \vee B) \rightarrow \sim A$

given

17. A

assumed

18. $A \vee B$

addition argument

19. $\sim A$

modus ponens

20. $A \wedge \sim A$

conjunction argument

21. $\sim A$

law of contradiction

Answer the question.

22. Explain the significance of Acts 17:2 for logic.

Paul not only reasoned in this place, but the verse says that reasoning was Paul's manner. He reasoned out of the Scriptures everywhere he went.