

Name _____

Date _____

Logical Drivers

Upon receiving your driver's license, you become responsible for following many traffic laws that keep yourself and others safe while on the road. If you violate these traffic laws you could be ticketed, fined, and face many other penalties. A list of the traffic laws in Virginia and their penalties if violated, can be found in Virginia's Driver Manual.

1. Review [Virginia Driver's Manual Section 5 \(Pages 27-30\)](#) and identify one law and the consequences for violating that law. Write a conditional statement where the hypothesis contains the law that is being broken, and the conclusion contains the penalty for breaking that law.
2. Define variables for your hypothesis and conclusion and rewrite your conditional statement using your variables and logic symbols.
3. Write the converse, inverse, and contrapositive of your conditional statement. Rewrite each statement in symbolic form.

Statement	Symbolic Form
Converse -	
Inverse -	
Contrapositive -	

4. Is the converse of your conditional statement true? If not, provide a counterexample.
5. Is the inverse of your conditional statement true? If not, provide a counterexample.
6. Is the contrapositive of you conditional statement true? If not, provide a counterexample.

Geometry Task

Virginia Department of Education

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7. Is it possible to write a biconditional for your conditional statement? If not, explain why.

8. Often times there are a series of consequences that occur when a policy is not followed. For example:

If you are tardy to class more than three times in a quarter, then you will receive a detention. If you receive a detention, you will be unable to attend after school activities for a day. Therefore, if you are tardy to class more than three times in a quarter, then you will be unable to attend after school activities for a day.

This series of consequences represents the law of syllogism.

Review the driving laws and consequences again. Create conditional statements that follow the law of syllogism and provide the final conclusion like in the example provided above.

9. Use logic symbols to represent the law of syllogism.

10. Represent a violation of a driving law and its consequence using the law of detachment. Provide a valid conclusion.

11. Represent a violation of a driving law and its consequence using the law of contrapositives. Provide a valid conclusion.