

Introduction to Logic

Exercises: Categorical Propositions

1 The Square of Opposition

Directions: Assume that the given proposition is *true*, perform the required logical operation, and state the resultant proposition. Then *state the resultant truth value*.

Example: What is the contradictory of "No mass cults are art forms"?

Answer: Some mass cults are art forms. *False*.

1. What is the contrary of "**All nonarctic flora are bromeliads**"?
2. What is the superaltern of "**Some dragsters are not fast cars**"?
3. What is the superaltern of "**Some Rothco paintings are meditative works**"?
4. What is the subcontrary of "**Some Wall St. gnomes are not accurate forecasters**"?
5. What is the contrary of "**All logicians are really boring people**"?

2 FURTHER IMMEDIATE INFERENCES

3. What is the contrapositive of "**Some Rothco paintings are meditative works**"?

4. What is the converse of "**Some Wall St. gnomes are accurate forecasters**"?

5. What is the contrapositive of "**All logicians are really boring people**"?

6. What is the obverse of "**No rap is hard rock**"?

7. What is the converse of "**Some parliments are not two-chambered groups**"?

8. What is the obverse of "**Some orchids are *Cattleyas***"?

9. What is the contrapositive of "**Some soft drinks are not nutritional goods**"?

10. What is the converse of "**Some tillers are TroyBilt**"?

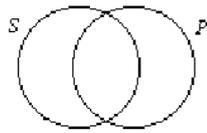
3 Successive Immediate Inferences

1. *Directions:* Given the truth of "All splitscreens are practicums" what can be validly inferred about the truth or falsity of "Some non-practicums are splitscreens"? (Cite the proper logical relation and appropriate truth value for each successive inference. You may abbreviate by using "S" and "P" for "splitscreens" and "practicums.")

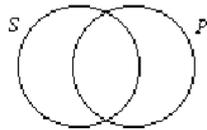
| Statement or Proposition | Logical Relation | Truth Value |
|------------------------------------|------------------|-------------|
| 1. All splitscreens are practicums | given | true |
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4 Venn Diagrams

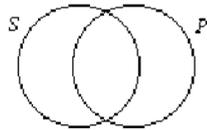
Directions: Diagram the following statements using the conventional symbols of Venn Diagrams.



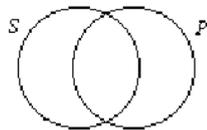
1. No behaviorists are existential psychoanalysts.



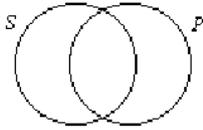
2. Some logicians are mathematicians.



3. All musicians are good programmers.



4. Some orchids are not arctic flora.



5. No soccer players are tennis fans.

5 Optional

Directions: Translate the relevant statements in the following passage to standard-form statements. Prove whether or not the inference is justified by constructing an argument using successive immediate inferences. (5 points)

1. Translate the following statements into standard form: Any strain imposed on the mind will be reflected in the eyes, and similarly anything which rests the mind will benefit them.¹

2. Next, evaluate Price's Reasoning by the technique of successive immediate inferences.

| Statement or Proposition | Logical Relation | Truth Value |
|--------------------------|------------------|-------------|
| | | |

Be sure you have given the resultant truth values.

Name _____

¹C.S. Price, *The Improvement of Sight* (Cleveland: Sherwood Press, 1946), vi.