Introduction to Logical Reasoning Workshop on (ategorical Inferences and Syllogisms

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Part I, Problems 1–3 Solutions

Statement A: All professors are successful people.

- 1. The subject (S) is professors.
- 2. The predicate (P) is successful people.
- 3. The Venn diagram for this statement:



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Part I, Problem 4 Solution

Statement B: All successful people are professors.

The Venn diagram for statement B:



If A is *true*, then B is *unknown* by **conversion**.

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Part I, Problem 5 Solution

Statement C: No professors are non-successful people.

The Venn diagram for statement C:



If A is *true*, then C is *true* by **obversion**.

Part II, Problems 1–3 Solutions

Statement A: Some students are journalism majors.

- **1.** The subject (S) is students.
- 2. The predicate (P) is journalism majors.
- 3. The Venn diagram for this statement:



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Part II, Problem 4 Solution

Statement B: Some journalism majors are students.

The Venn diagram for statement B:



If A is *true*, then B is *true* by **conversion**.

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Part II, Problem 5 Solution

Statement C: Some non-journalism majors are non-students.

The Venn diagram for statement C:



If A is *true*, then C is *unknown* by **contraposition**.

Part III, Problem



The argument is valid because the area of overlap between categories *S* and *P* is completely empty.

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Part III, Problem 2



The argument is invalid because we cannot tell for sure whether there is a dot in the area of overlap between categories *S* and *P*.

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The major term (P) is courageous people, the minor term (S) is investigative journalists, and the middle term (M) is social and political activists. The standard symbolic form of this argument is as follows:

- Some *M* is not *P*.
 All *M* is *S*.
- \therefore Some *S* is not *P*.

Part IV



The argument is valid because there is a point that is in S (and also M) but that is not in P.

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We will look at some further inferences that can be made from a single categorical statement.

Also, please don't forget to turn in your response to the Workshop #11 Questionnaire on your way out.

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