Introduction to Logical Reasoning

Workshop on Categorical Inferences and Syllogisms

Part I: Consider the following categorical statements:

A. All professors are successful people.
B. All successful people are professors.
C. No professors are non-successful people.

Do the following problems.

1. What is the subject (*S*) of statement A?

2. What is the predicate (*P*) of statement A?

3. Draw the Venn diagram representing statement A, being sure to correctly label each circle involved.

4. Draw the Venn diagram representing statement B. If A is *true*, then is B true, false, or unknown?

5. Draw the Venn diagram representing statement C. If A is *true*, then is C true, false, or unknown?

Part II: Consider the following categorical statements:

A. Some students are journalism majors.
B. Some journalism majors are students.
C. Some non-journalism majors are non-students.

Do the following problems.

1. What is the subject (*S*) of statement A?

2. What is the predicate (*P*) of statement A?

3. Draw the Venn diagram representing statement A, being sure to correctly label each circle involved.

4. Draw the Venn diagram representing statement B. If A is *true*, then is B true, false, or unknown?

5. Draw the Venn diagram representing statement C. If A is *true*, then is C true, false, or unknown?

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Part III: For each categorical syllogism, (1) construct a Venn diagram representing the information contained in its premises, (2) construct a second Venn diagram representing the conclusion, (3) use these two diagrams to explain whether the syllogism is valid or invalid.

1. 1. No *P* is *M*.
   2. All *S* is *M*.
   ∴ No *S* is *P*.

2. 1. Some *M* is not *P*.
   2. Some *S* is *M*.
   ∴ Some *S* is *P*.

Part IV: For the following categorical syllogism in English, (1) identify the major term (*P*), the minor term (*S*), and middle term (*M*); (2) put the syllogism into standard symbolic form; (3) construct a Venn diagram representing the information contained in its premises; (4) construct a second Venn diagram representing the conclusion, and (5) use these two diagrams to explain whether the syllogism is valid or invalid.

> Some investigative journalists are not courageous people, for all social and political activists are investigative journalists, and some social and political activists are not courageous people.