

# Introduction to Logical Reasoning

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## Workshop on Categorical Inferences and Categorical Syllogisms

**Part I:** Consider the following categorical proposition: "All professors are successful". Do the following problems.

1. What is the subject (*S*) of this statement? What is its predicate (*P*)? Put this information together to make the Venn diagram representing this categorical statement.

2. Suppose it is true that "All professors are successful". Use the above Venn diagram to explain which of the following categorical statements are true, false, or undetermined.

A. Some professors are successful.

B. Some professors are not successful.

C. No professors are successful.

**Part II:** Consider the following categorical statement: "Some students are not journalism majors". Do the following problems.

1. What is the subject (*S*) of this statement? What is its predicate (*P*)? Put this information together to make the Venn diagram representing this categorical statement.

2. Suppose it is true that "Some students are not journalism majors". Use the above Venn diagram to explain which of the following categorical statements are true, false, or undetermined.

A. All students are journalism majors.

B. Some students are journalism majors.

C. No students are journalism majors.

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**Part III:** For each categorical syllogism, (i) construct a Venn diagram representing the information contained in its premises, and (ii) use that diagram to determine whether the argument is valid or invalid.

1.    1. No  $P$  is  $M$ .  
      2. All  $S$  is  $M$ .  
       $\therefore$  No  $S$  is  $P$ .

2.    1. Some  $M$  is not  $P$ .  
      2. Some  $S$  is  $M$ .  
       $\therefore$  Some  $S$  is  $P$ .

**Part IV:** For the following categorical syllogism in English, (i) identify the major term ( $P$ ), the minor term ( $S$ ), and middle term ( $M$ ); (ii) put the syllogism into standard symbolic form; (iii) construct a Venn diagram representing the information contained in its premises; and (iv) use that diagram to determine whether the syllogism is valid or not.

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.