

## LOGIC STUDY SHEET: DEDUCTIVE ARGUMENTS

### Chapter Eight:

#### Categorical Syllogisms

Def.: A **deductive argument** is an argument whose premises are intended to provide conclusive support for its conclusion.

A deductive argument is **valid** when it is impossible for its premises to be true and its conclusion false. If the premises are true, the conclusion must be true.

A deductive argument is **cogent** if and only if it is valid and contains only true premises.

#### Categorical Propositions

Propositions with a subject and a predicate, each representing a **class**. The purpose of the proposition is to establish a relationship between the two classes.

The **form** of the proposition is the manner in which the proposition speaks of the classes.

A: All S is P. universal affirmative

E: No S is P. universal negative

I: Some S is P. particular affirmative

O: Some S is not P. particular negative

A term is **distributed** when the form talks about every single member of a class in relation to the other class.

A: All S is P. subject class is distributed

E: No S is P. both subject and predicate classes are distributed

I: Some S is P. neither class is distributed

O: Some S is not P. predicate class is distributed

#### Square of Opposition: deductive inferences

A: T or F or ?    E: T or F or ?    I: T or F or ?    O: T or F or ?

If "All S is P" is true:

If "All S is P" is false:

If "No S is P" is true:

If "No S is P" is false:

If "Some S is P" is true:

If "Some S is P" is false:

If "Some S is not P" is true:

If "Some S is not P" is false:

#### Standard Form: two premises, one conclusion