

PHI 103 - Categorical Logic  
Supplemental Lecture

Venn Diagrams  
Visualizing Categorical Logic

# Categorical Logic

## Venn Diagrams

*All* members of the *Subject* class *are* members of the *Predicate* class.

All S are P.

*None* of the members of the *Subject* class *are* members of the *Predicate* class.

No S are P.

*At least one* member of the *Subject* class *is* a member of the *Predicate* class.

Some S are P.

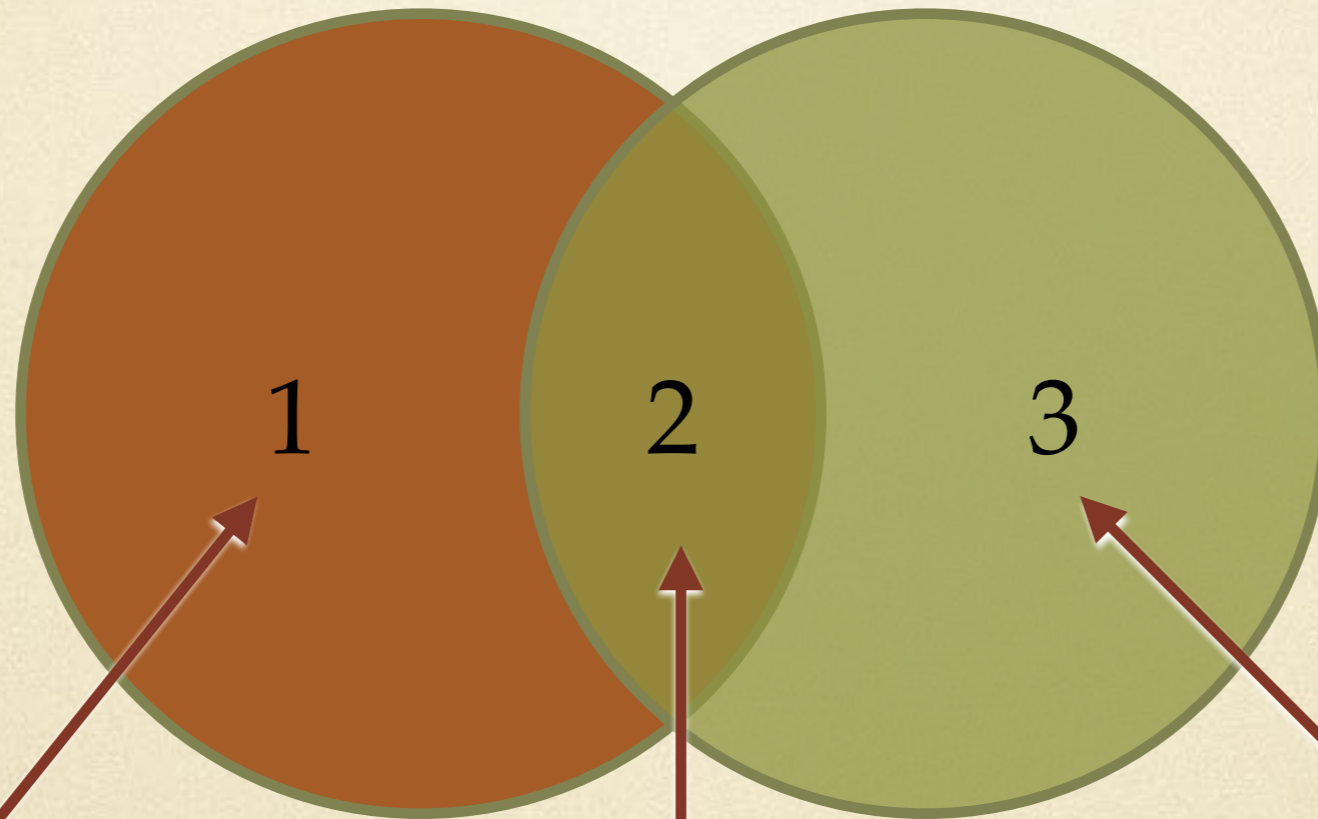
*At least one* member of the *Subject* class *is not* a member of the *Predicate* class.

Some S are not P.

# Venn Diagrams

Subject  
class

Predicate  
class



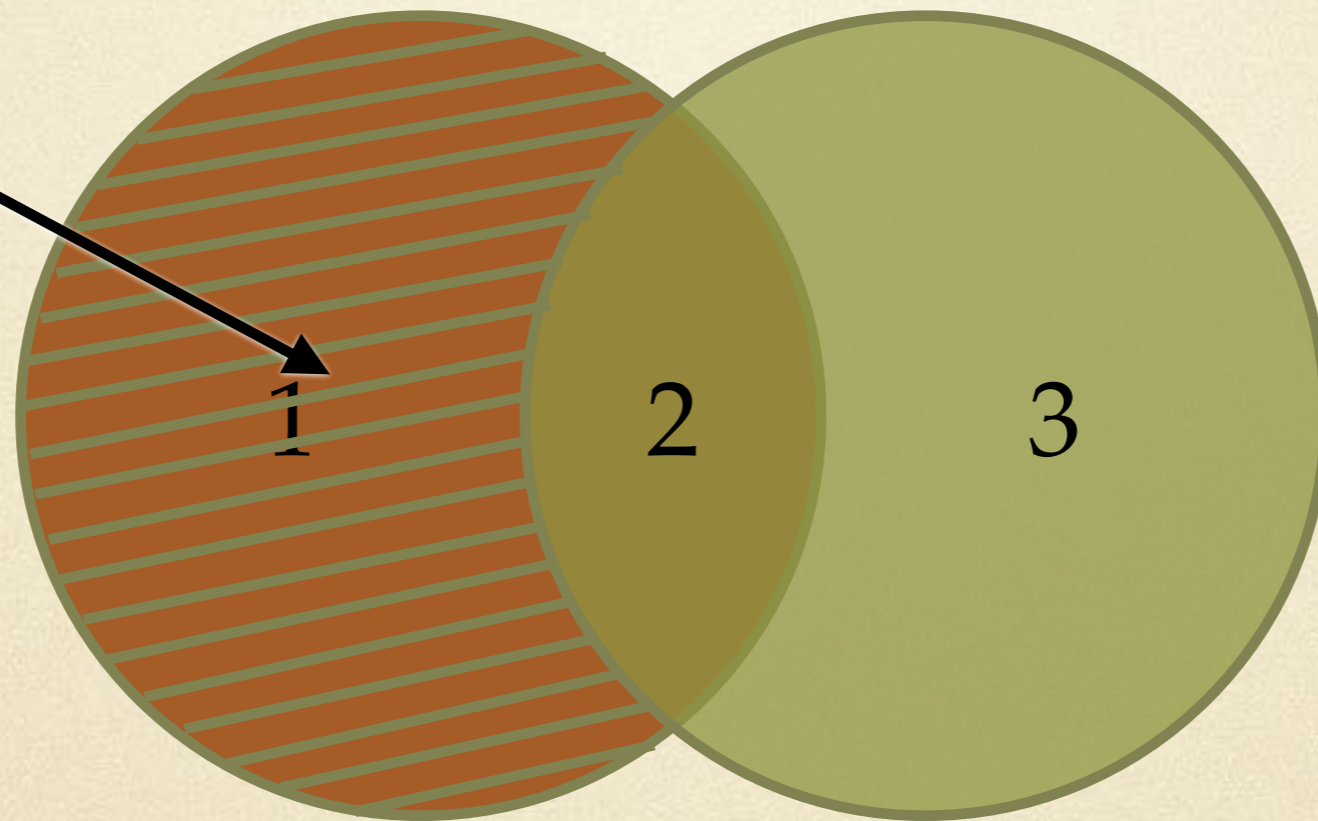
*Only Subject  
Class*

*Both Classes*

*Only Predicate  
Class*

# Venn Diagrams

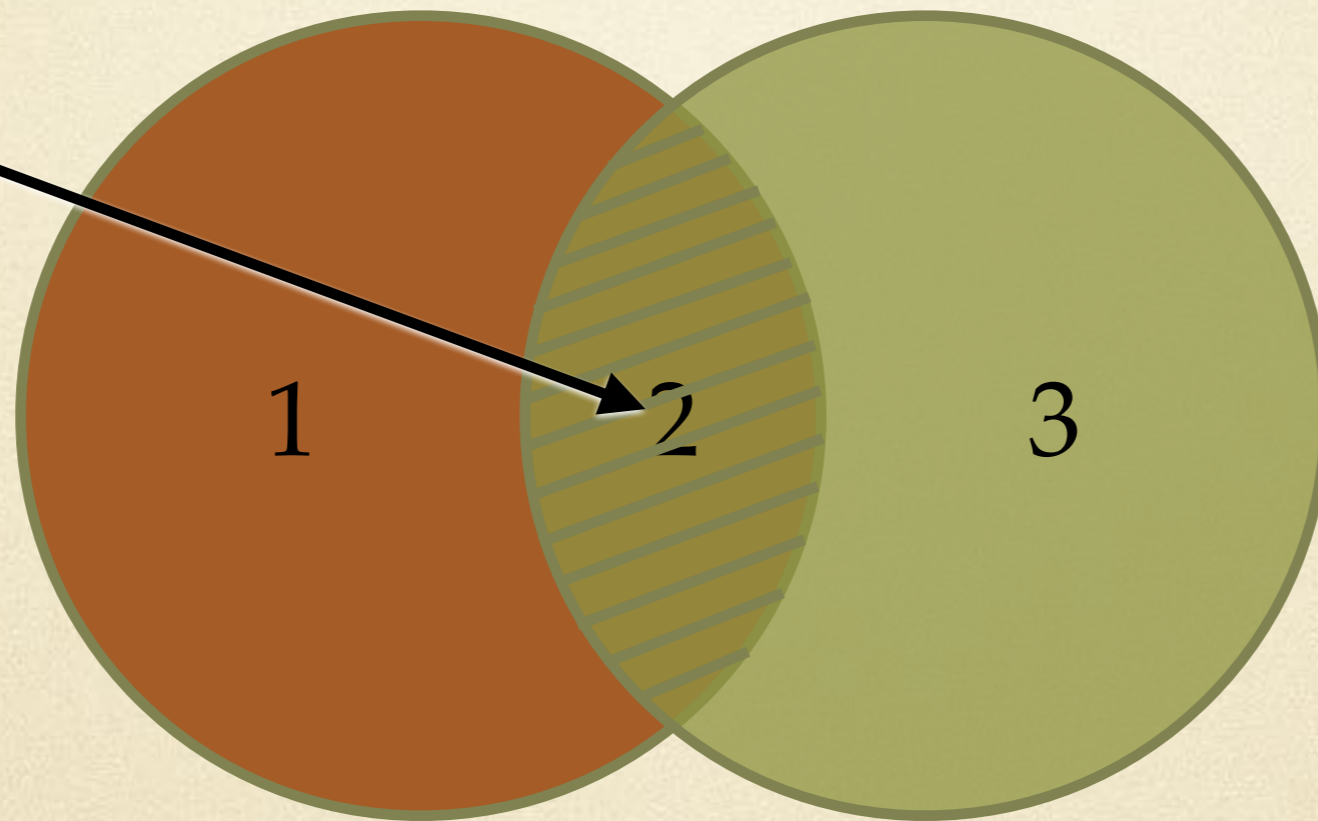
*Nothing  
exists  
here  
now*



To eliminate an area, *shade it out.*

# Venn Diagrams

*Nothing  
exists  
here  
now*



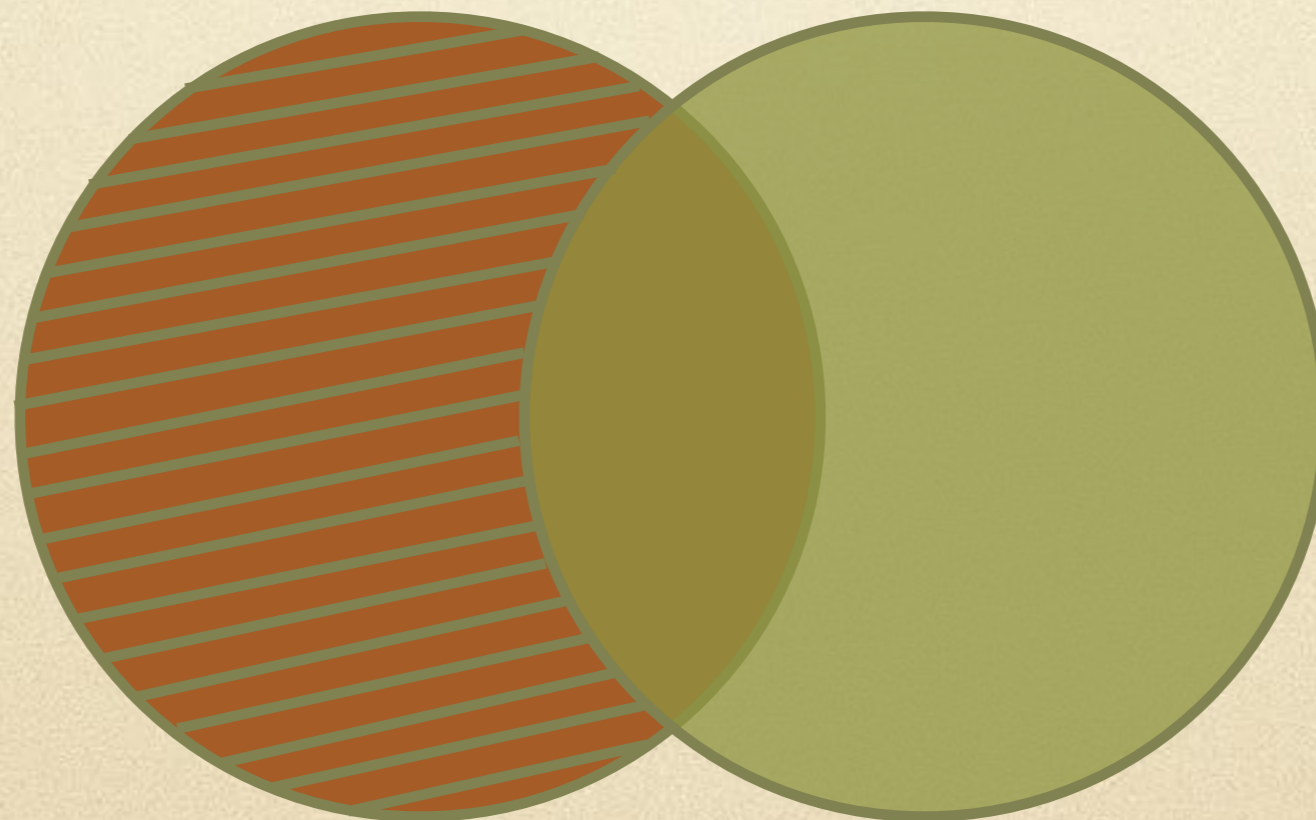
To eliminate an area, *shade it out.*

# A - Universal Affirmative

All S are P.

*Every member of the subject class is also a member of the predicate class.*

Subject      Predicate

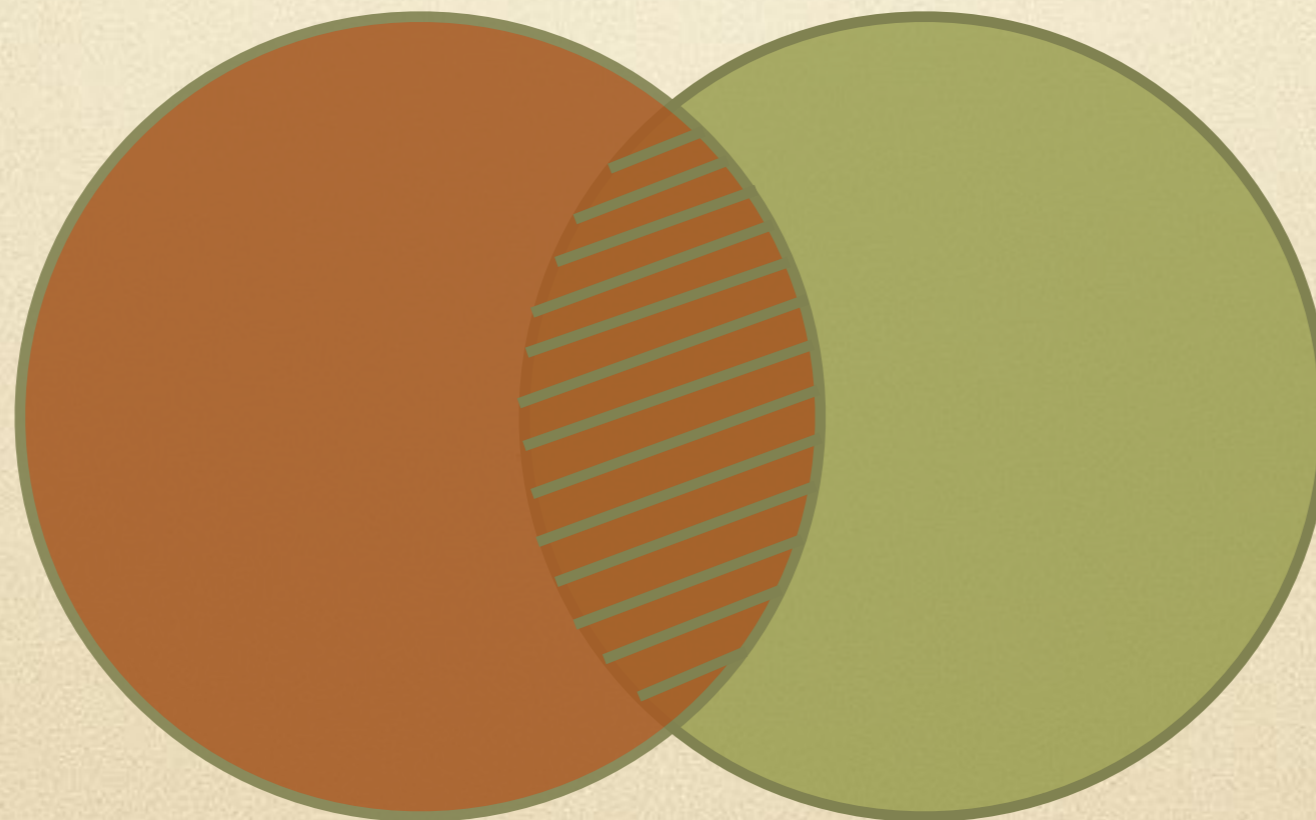


# E - Universal Negative

No S are P.

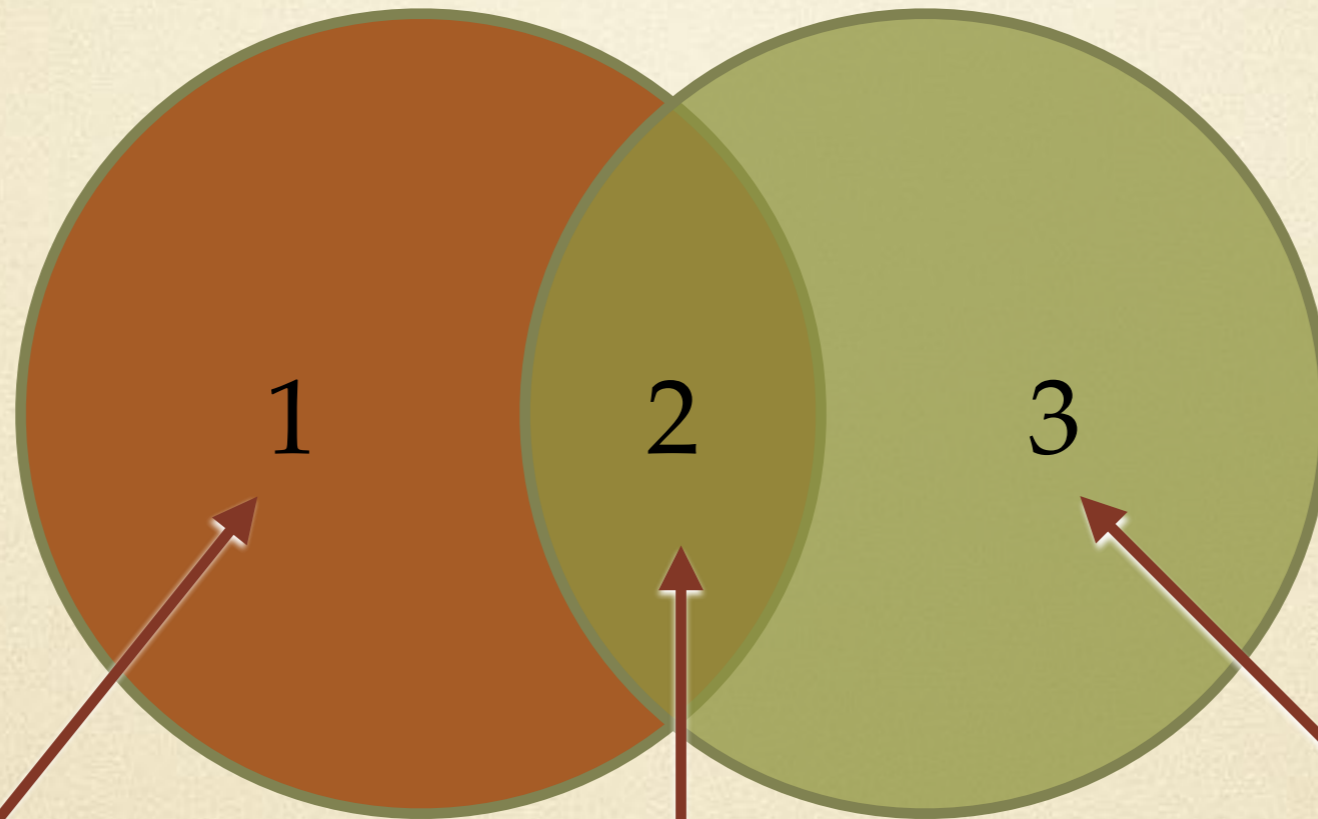
*No members of the subject class are members of the predicate class.*

Subject      Predicate



# Venn Diagrams

Subject    Predicate



*All members  
of Subject  
Class*

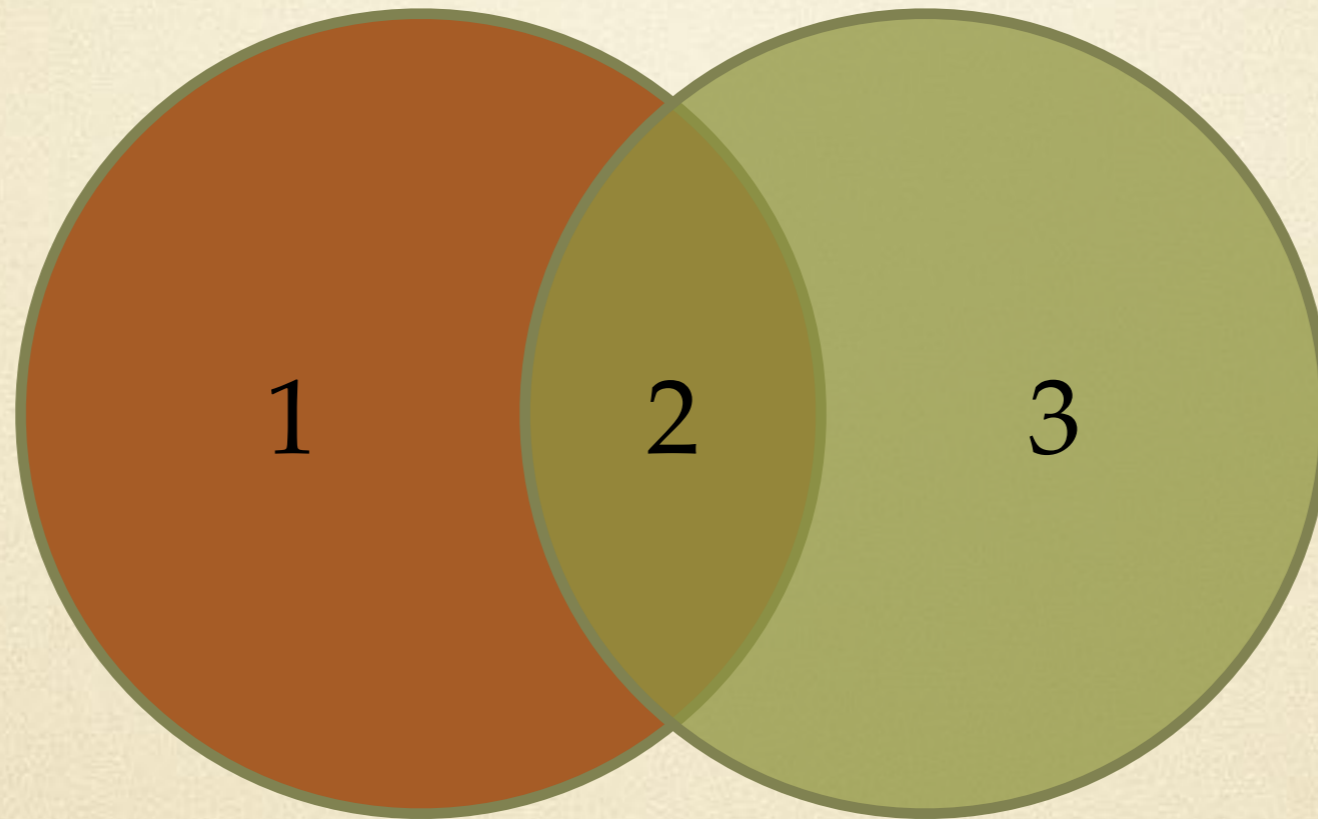
*All members  
of Both  
Classes*

*All members  
of Predicate  
Class*



# Venn Diagrams

Subject      Predicate



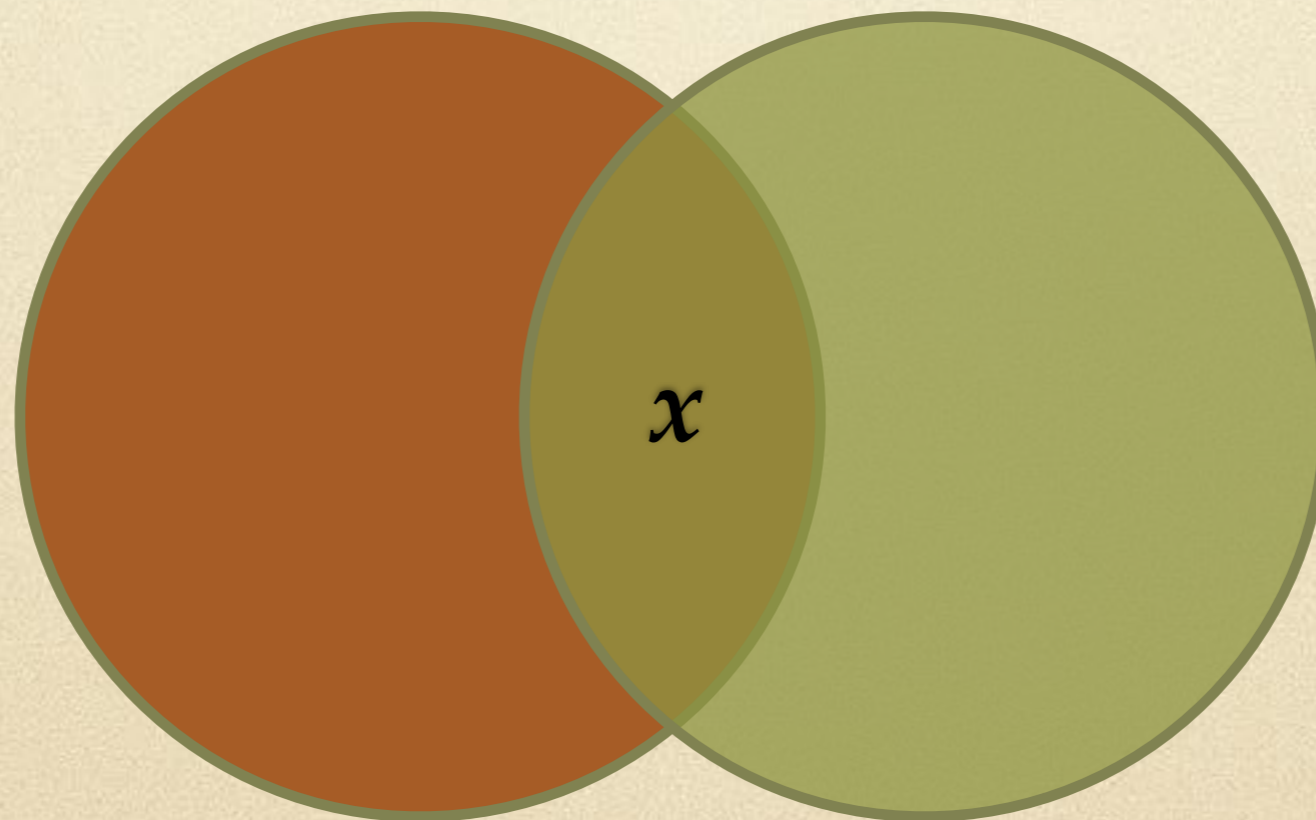
To indicate *at least one*, add an ***x***.

# I - Particular Affirmative

Some S are P.

*At least one members of the subject class is also a member of the predicate class.*

Subject      Predicate

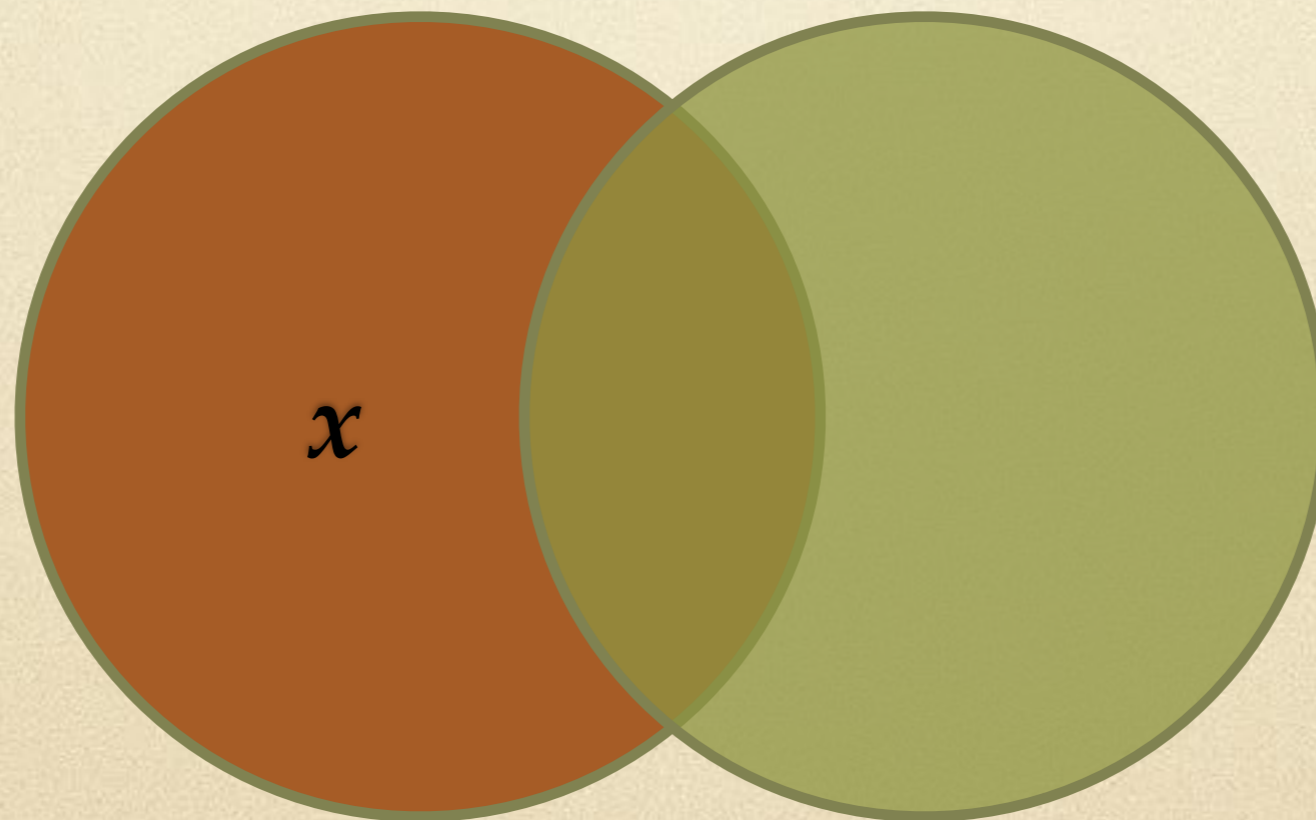


# O - Particular Negative

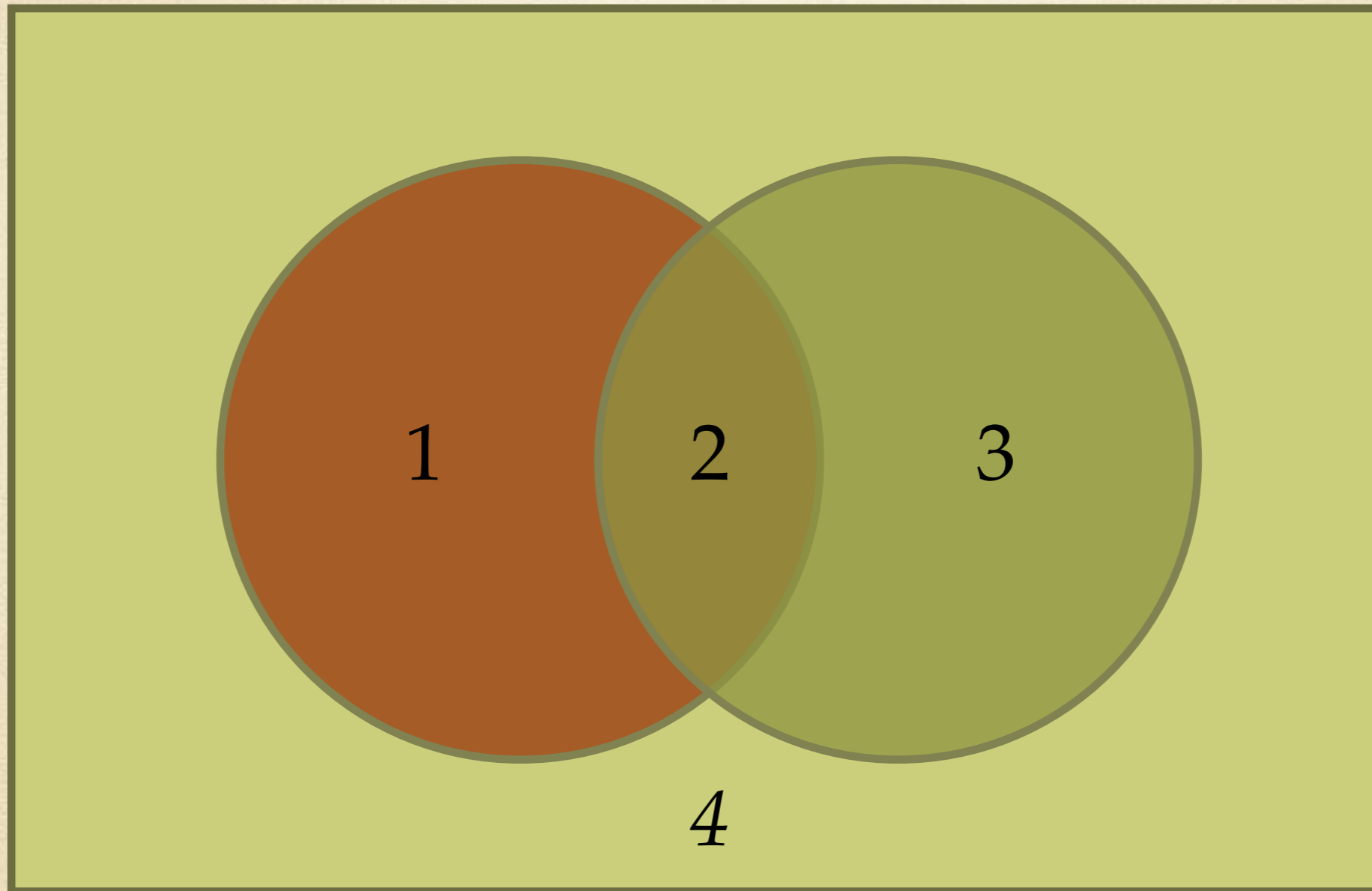
Some S are not P.

*At least one members of the subject class is **not** a member of the predicate class.*

Subject      Predicate



# Venn Diagrams



Everything that is *neither* a member of the Subject *nor* the Predicate class.