Name:_____

1.1: The Language and Rules of Logic

<u>Class Prep Assignment</u>   <u>Due at the beginning of next class</u>

1. Use the textbook and/or the internet to find definitions of these terms (as related to logic and arguments) and write definitions in your own words.

Proposition:

Negation:

Double Negation:

Truth Table:

2. Watch the video on **Truth Tables** and take notes on this page.

Example Propositions: *p:* Jamie is wearing jeans   *q:* Jamie is wearing a hat

<u>Negation and Double Negation</u>
If a statement is true, its negation is false and its double negation is true.

p	*not p*	*not not p*

<u>*And* Statements</u>
The statement "p and q" is true ONLY if <u>both</u> are true.

p	*q*	*p and q*

<u>*Or* statements</u>
The statement "p or q" is true if either or both are true. (Inclusive or). We will use inclusive unless otherwise specified.

p	*q*	*p or q*

<u>If..., then Statements (Conditional)</u>
A conditional proposition has two parts and each can be true or false. The entire statement is then either true or false.
"If I wear jeans, then I will wear a hat"

p	*q*	*If p, then q*

Name:_____

1.2: Sets and Venn Diagrams

<u>Class Prep Assignment</u>   <u>Due at the beginning of next class</u>

Watch the video on **Venn Diagrams** and take notes on this page.

<u>Types of Relationships</u>
Draw a Venn diagram for each situation and describe the relationships between the sets.

a. Insects and flies   b. Insects and cats   c. Athletes and Students

<u>Four Categorical Propositions</u>   S: Subject Set   P: Predicate Set

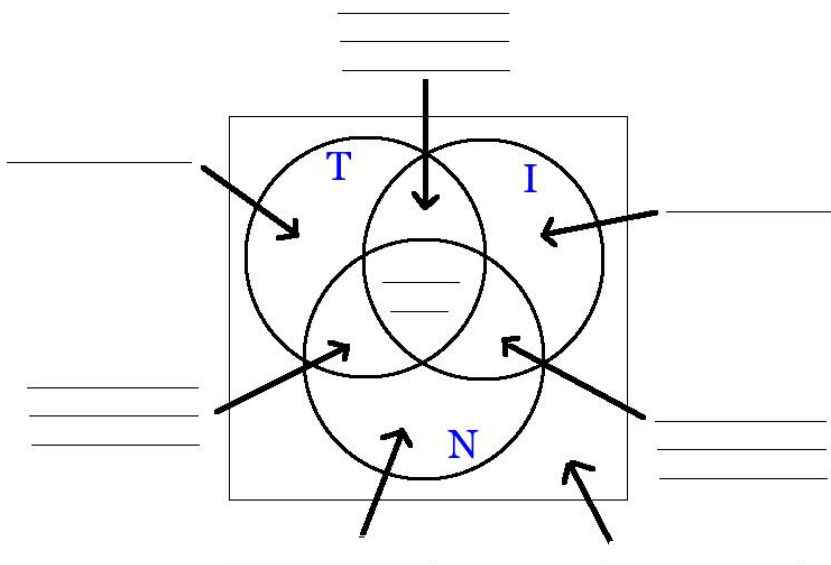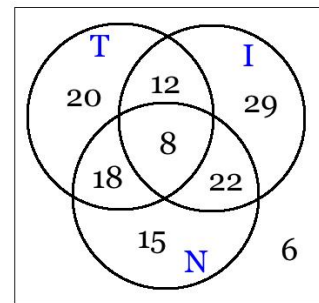| a. All S are P	b. No S are P	c. Some S are P	d. Some S are not P
All children are people	No college students are cats	Some college students are athletes	Some college students are not athletes

<u>A Venn Diagram with Three Sets and Data</u>
130 people were surveyed about the news sources that they used on a regular basis.
The results are given in the Venn diagram:
   T represents television, I represents the Internet, and
   N represents newspapers

a) Write a description for each of the eight areas.

b) How many people used the Internet?

c) How many people used at least two of the three sources?

d) How many people didn't use newspapers?