

3

The Mathematics of Logic & the Media

3.1 Sets & Set Diagrams

- ▶ Use a union of two sets to represent *or*.
- ▶ Use an intersection of two sets to represent *and*.
- ▶ Use the complement of a set to represent *not*.

3.2 Statements & Negations

- ▶ Analyze statements that have the term *all*.
- ▶ Analyze statements that have the term *some* or *many*.
- ▶ Analyze negations of statements.

3.3 Deductive & Inductive Reasoning

- ▶ Use deductive reasoning with syllogisms.
- ▶ Know how a deductive reasoning system is created.
- ▶ Use inductive reasoning.

3.4 Fallacies in Logic

- ▶ Recognize deductive fallacies.
- ▶ Use set diagrams to detect fallacies.
- ▶ Recognize fallacies in advertisements.