

## Reasoning in the Sciences

### Review for Exam 1

#### I. Short Answers/Essay Questions

1. What is science? How is it different from philosophy?
2. What is knowledge? Is there a problem with the notion of justified or confirmed scientific knowledge?
3. What is a proposition or statement? How are propositions different from sentences?
4. What is the difference between an argument and an explanation?
5. What are the different kinds of explanations?
6. What is the intention of a scientific explanation?
7. Are scientific explanations superior to other types of explanations?
8. What is an inference?
9. Explain the difference between deductive and inductive arguments.
10. What makes a deductive argument (a) valid, and (b) sound?
11. What makes an inductive argument (a) strong, and (b) cogent?
12. How are deductive and inductive reasoning relevant to the pursuit of scientific knowledge?

#### II. Review True/False Questions in *A Concise Introduction to Logic*

1.1 IV.

1.2 V.

1.3 III.

1.4 V.

#### III. Review exercises in 1.1 – 1.4.