Mathematical Methods for Philosophy:
Problem Set 5

Due Date: This problem set is due November 19th, 2013 at the beginning
of class.

Lab Problems:

- Chapter 11: Lab Problems 4, 7, 8, and 10.

- Chapter 12: Lab Problem 2, 5, and 6.

Exercise 1 *Represent the following argument in the language of predicate
logic. Provide a derivation using only the basic introduction and elimination
rules for the connectives, quantifiers, and equality symbol.*

- *Suzy has an older brother David.*

- *Suzy is well-adjusted.*

- *Every non-middle child is not well-adjusted.*

- ***Conclusion:** Suzy has a younger sibling.*

Hint: *You may need to add a premise defining what a "middle child" is. A
person is said to be a middle child if and only if she has both an older and
younger sibling.*

Exercise 2 *Represent the following argument in the language of predicate
logic. Provide a derivation using only the basic introduction and elimination
rules for the connectives, quantifiers, and equality symbol.*

- Moby Dick *is an excessively long and boring book.*

- Moby Dick *was written by Herman Melville, who is a great American
author.*

- *Every great American author has written some book that is either not
long or excessively boring.*

- ***Conclusion:** Herman Melville wrote some book other than* Moby
Dick*.*