

## Homework 2

The exercises below are taken from the book

D'Angelo/West, *Mathematical Thinking*, Second Edition.

You can download the book in my webpage: [mattos.web.illinois.edu](http://mattos.web.illinois.edu).

Solutions must be submitted on Canvas.

**Due date:** next Wednesday, February 8th.

In the first two items, let  $p$  and  $q$  be propositions.

1. Show that  $\neg(p \rightarrow q)$  and  $p \wedge \neg q$  are logically equivalent.
2. Show that  $p \rightarrow q \equiv \neg p \vee q$ .
3. Page 46, exercise 2.16
4. Page 46, exercise 2.17
5. Page 46, exercise 2.18
6. Page 49, exercise 2.53