

**Math 215**  
**Homework 1**  
Due Friday, August 29

Read sections 1 and 2. Exercises from the text: 1.2, 1.4, 1.5, 2.1, 2.3, 2.4

To turn in:

1. (a) Construct a truth table for the following statement:

$$((\text{Not } P) \text{ and } (\text{Not } Q)) \text{ or } (P \text{ and } Q)$$

(b) Draw its Venn diagram.

(c) Express the statement of part (a) in a different but logically equivalent way. Construct the truth table for your statement.

2. Prove that an integer  $N$  is even if and only if its square  $N^2$  is even.