MATH 3200 – Homework #1
posted January 13, 2020; due at the **start of class** on January 22, 2020

All numbering corresponds to the course textbook, A TeXas-Style Introduction to Proof. Assignments are expected to be **neat** and **stapled**. **Illegible work may not be marked.**

1. Exercise 1.10(a,b,f,g,i). Explain your answers.

2. Exercise 1.18. (No justification required.)

3. Use a truth table to prove Statement 1.21(b).

4. Exercise 1.29. Explain your answers.

5. Exercise 1.30. Explain your answer.

6. Statement 1.34. (Again, use truth tables.)

7. Exercise 1.39. Explain your answers.

8. (a) Create a truth table for the compound statement

$$((P \Rightarrow Q) \land P) \Rightarrow Q.$$

For which truth values of P and Q does this statement hold?

(b) Create a truth table for the compound statement

$$((P \Rightarrow Q) \land (Q \Rightarrow R)) \Rightarrow (P \Rightarrow R).$$

For which truth values of P, Q, R does this statement hold?