York University

Faculties of Pure and Applied Science, Arts, Atkinson

MATH 2090. Problem Set #1. Posted January 27, 2002

Due in the Course Box. Friday, February 8, 2002

Section N

In your proofs it is imperative to clearly state what **tools** you use (e.g., WLUS, SLCS, MP, PSL, Monotonicity, Deduction Theorem, Weak Generalization, which axiom(s), etc.)

From the text p.213–215: Do the set(!) of problems

$$\{11.3, 11.4, 11.7(d), 11.12((a)\text{–}(c)), 11.13(d), 11.15, 11.17\}$$

Conventions **AND** notation from class apply! In particular,

1. Convert GS-assertions to "standard notation" before you start your proof.
2. Note that we have *only one* set theory axiom, *Extensionality*.

Also do

- Prove $ST \vdash (\forall a, b, c, d)\big(\{\{a\}, \{a, b\}\} = \{\{c\}, \{c, d\}\} \Rightarrow a = c \wedge b = d\big)$.
- $ST \vdash A \subset B \Rightarrow (\exists x)(x \notin A)$.