1. Use notations with care such as

$\in$

$\subset$ (or $\subseteq$)

2. Sentence should as " If ...., then ......", or " .... holds for each (or all) ...."

If he is a CU student then he is good

若天氣好，我去打波.

$P \Rightarrow Q$

If $x \in C$ then $x \in G$

$x \in G$, for all $x \in C$ $\quad (C \subseteq G)$.

3. Negations of sentences in the Question 2 above.

4. Using axioms I and II, you can show many familiar rules/formulae that you learnt in schools such that

uniqueness of zero, one, "inverse" of x with respect to addition or multiplication, cancellation laws,

$(a+b)^2 = a^2 + 2ab + b^2$,

where $a^2 := a.a$ and $2x := x + x \quad \forall\, a, x \in \mathbb{R}$.

5*. The natural numbers and (Generalized) Mathematical Induction and

1<2<3<4<5 ....

and there does not exist a nature number strictly between a natural number n and n+1.

6*. Given a set A of real numbers and a real number u, define "u is an upper bound of A" and its negation (namely what is meant that " u is not an upper bound of A" (in doing so NO Negative term is allowed to be employed!).
Give the definition of "largest element of A". Give an example showing that an upper bound of A may not be an element of A and that a set A need not have the largest element.

7. Do Question 6 but for lower bounds, smallest elements etc.

8*. Given a lower bound c for a nonempty set B of real numbers define " c is a (=the) greatest lower bound for B" and its negation.

(hand-in your solutions of questions with *; not yet set deadline: to be announced a a later date)