

## 1 Intersection in Sets of Sets

These are the results from prompting ChatGPT to explain how an element of a set of sets relates to the result of intersecting all of the sets it holds.

STUDENT: what

CHATGPT: what

## 2 Order of Operations

When prompted to clarify the order of operations between equality and subset, chatGPT was able to give a correct explanation initially.

STUDENT: In set theory, what is the precedence of equality relative to subset?

CHATGPT: In set theory, equality has a higher precedence than subset. This means that, when evaluating a statement involving both equality and subset, equality should be considered first. For example, in the expression  $A = B \subseteq C$ , the statement  $A = B$  should be evaluated before determining whether  $B \subseteq C$ .

Then, when pressed further, ChatGPT was able to elucidate some of the results of having an equality and a subset relationship.

STUDENT: Does  $A = B \subseteq C$  imply that  $A \subseteq C$ ?

CHATGPT: Yes,  $A = B \subseteq C$  does imply that  $A \subseteq C$ . If  $A = B$  and  $B \subseteq C$ , then by definition of subset, all elements in set B are also elements in set C. Since A and B are equal, this means that all elements in set A are also elements in set C, and so  $A \subseteq C$ .