

IHB

ANS. One set has an implicit ordering induced by Peano Axioms.

Def: $<$ is a (strict) ordering on S ($S \neq \emptyset$)

iff $\forall a, b, c \text{ in } S$

(i) Exactly one of

$$a < b$$

$$b < a$$

$$a = b \text{ is true}$$

(ii) If $a < b$ and $b < c$

then $a < c$

This is an axiomatic presentation