a) $R \subseteq T$ proves it wrong then you are done
2.) Given sets A and B under what condition does $A - B = B - A$
need to prove that $A = B \iff A - B = B - A$

starting with $A = B \rightarrow A - B = B - A$
if $A = B$, then $A - B = B - A = \emptyset$

continuing with $A = B \leftarrow A - B = B - A$
PBC if $A \neq B$ then $A \nsubseteq B \vee B \nsubseteq A$ then $\exists x \in A \mid x \notin B$ OR $\exists x \in B \mid x \notin A$
but by definition of difference of sets:

$A - B = \{x \mid x \in A \wedge x \notin B\}$
$B - A = \{x \mid x \in B \wedge x \notin A\}$
if $A - B = B - A$
then it means that $\exists x \in A \mid x \notin B$
because of the equality but the same x must exists in B not in A
we can see that no element satisfies this condition
We can then conclude that
$A - B = \emptyset$ $B - A = \emptyset$ proving also that $\forall x \in A \mid x \in B$ $\forall x \in B \mid x \in A$
therefor proving the equality

i. Define $T \subseteq A2$ st $XTy \iff (xRyANDxSY)$ show T is refl sym and transitive to prove it
4. Given poset (x, smallerEq) prove or disprove (a) x ¿= y iff y ¡=-1 x
R-1 = (b,a) — (a,b) ∈ R) (y,x) ∈ ¡= so it mean (x,y) ∈ ¡=-1
(b) x ¿= y $\iff$ y ¡=’x (2,2) will prove it false;