

370 Here is an argument to “prove” that in any group of people, all the people are the same age. The “proof” is by induction on the size of groups. The induction base is that in any group of size 1, all the people are the same age. Or we could equally well use groups of size 0 as the induction base. The induction hypothesis is to assume that in any group of size n , all the people are the same age. Now consider a group of size $n+1$. Let its people be p_0, p_1, \dots, p_n . By the induction hypothesis, in the subgroup p_0, p_1, \dots, p_{n-1} of size n , all the people are the same age; to be specific, they are all the same age as p_1 . And in the subgroup p_1, p_2, \dots, p_n of size n , all the people are the same age; again, they are the same age as p_1 . Hence all $n+1$ people are the same age. Formalize this argument and find the flaw.

no solution given