Homework 8A

This is a voluntary homework. Solving it, you can gain extra points to the exam. Hand in before the next lecture i.e. 15 Nov 16:15 (either on my desk in the classroom or send to my e-mail). You are eligible for getting points only if you hand in on time and only if it is solved (more or less) correctly.

Problem. Suppose $(G, \cdot)$ is a group, $a \in A$. Denote by n the order of a (the smallest n such that $a^n = e$.) Prove that $|\langle a \rangle| = n$.

Hint: Show that $\langle a \rangle = \{a^i \mid i = 0, \ldots, n-1\}$.