QUIZ #1 – MATH 435

FEBRUARY 6TH, 2012

1. Suppose that G is a cyclic group of order 10 with generator $a \in G$. Write down all of the elements of G *AND* identify the order of each element of G.

Solution: The elements of G are $\{e, a^1, a^2, a^3, a^4, a^5, a^6, a^7, a^8, a^9\}$.

element	order
e	1
a	10
a^2	5
a^3	10
a^4	5
a^5	2
a^6	5
a^7	10
a^8	5
a^9	10

2. State and prove Lagrange's theorem.

Solution: You can find a proof in the book, and in *every* other book on abstract algebra.