

HW number Five, MTH 320, SPRING 2009

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QUESTION 1. Let $a \in S_8$ such that $a \neq e$. Find all possibilities for $|a|$. For each order you claim, say m , give me an element $a \in S_8$ such that $|a| = m$.

QUESTION 2. Give me an abelian subgroup, say H , of the group (S_5, o) such that $|H| = 6$.

QUESTION 3. Let $(M, *) = \langle w \rangle$ be a finite cyclic group of order 12 generated by $w \in M$. Find all elements in M that have order 12. Write your answer in terms of w (of course!!!).

Find all elements in M that have order 4, again write your answer in terms of w .

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