1. Let $G$ be any abelian group, and for integer $n$, let $G[n]$ denote the subgroup of $G$ of elements killed by the multiplication-by-$n$ map. Suppose that $G$ satisfies the following properties:

(i) For all $n$, $G[n]$ is either equal to $G$ or is of finite order.

(ii) For some $n$, $\{0\} \subsetneq G[n] \subsetneq G$.

Show that $G[n]$ is finite for all $n$.

2. Fill in the details of the proof of Proposition 7.6 in Charlap and Robbins.

3. Show that if $r \in K(E)$ is regular at a point $P$, then so is its derivative $\delta(r)$. We discussed this briefly in class — consider the cases $P \neq \infty$ and $P = \infty$ separately.

4. Fill in the details of the proof of Proposition 8.4 in Charlap and Robbins.