A group is *solvable* $G$ if there exist normal subgroups

\[ 1 = G_0 \subseteq G_1 \subseteq \cdots \subseteq G_n = G, \]

such that for $i = 1, 2, \ldots, n$, the quotient group $G_{i+1}/G_i$ is abelian.

The goal of this assignment is to write the first section for a chapter on solvable groups. In doing so, you should

(a) Briefly introduce the topic.

(b) Motivate the definition of solvable groups by a discussion of metabelian groups (for which you will need a discussion of commutator subgroups).

(c) End with a definition of solvable groups.

This should be a rewrite of both your previous papers combined into a single paper (with an appropriate “frame story”). You will probably want to adjust the order of your definitions and results to make the flow more natural, and to incorporate the comments of the grader. Also be sure to give the correct definition of commutator subgroup.

Turn in both this paper and the *commented* drafts of the previous papers.