Theorem Proving and Equality

Exercise 21 *Prove refutation soundness of* $\mathcal{G}$ *(Superposition for ground Horn clauses with equality as the only predicate).*

Exercise 22 *Prove Newman's Lemma. (Hint: Lemma 2.7.2 in the Term Rewriting book.)*

Exercise 23 *Prove Fact 8: A TRS* R *is terminating iff there is a reduction order* $>$ *such that if* $l \rightarrow r \in R$ *then* $l > r$.

(Hint: Theorem 5.2.3. in the Term Rewriting book.)

Exercise 24 *Complete the proof of Theorem 3 (completeness of* $\mathcal{G}$*) with cases, where something is selected in* C.