Theorem Proving and Equality

Exercise 14 Prove Fact 10: *If the precedence is well-founded, then the lexicographic path order is a simplification order.*

Hint: Theorem 5.4.14 in the Term Rewriting book.

Exercise 15 Prove Fact 12: *Let M and N be multisets over a set of elements A. $M \succ_{mul} N$ iff there exist finite multisets X and Y over the set A such that $\emptyset \neq X \subseteq M$ and $N = (M - X) \cup Y$ and $\forall y \in Y. \exists x \in X. x \succ y$.*

Exercise 16 Prove Fact 13: *If $\succ$ is well-founded, then $\succ_{mul}$ is also well-founded.*