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Minimal cyclotomic splitting fields for group characters.

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Author's summary: "Let F be a finite Galois extension of the rational number field \mathbf{Q} , and let G be a finite group of exponent n with absolutely irreducible character χ . This paper provides sufficient conditions for the existence of a minimal degree splitting field L with $F(\chi) \subseteq L \subseteq F(\varepsilon_n)$, where ε_n is a primitive n th root of unity. We obtain as immediate corollaries known results pertaining to this question in the literature. Moreover, we obtain necessary and sufficient conditions for the existence of a minimal splitting field L as above which is cyclic over $F(\chi)$. To achieve the above results we use the machinery of certain genus numbers of $F(\chi)$." *M. E. Keating (4-LNDIC)*