

Finite field extensions

Theorem 1. Let L/K be a finite field extension, and $\nu \in M_K$ an absolute value on K . Then we have

$$\sum_{w|\nu} e(w/\nu) f(w/\nu) = [L : K].$$

Let L/K be a finite field extension, and $\nu \in M_K$ an absolute value on K . We have

$$L \otimes_K K_\nu \cong \prod_{w|\nu} L_w^{e(w/\nu)},$$

where the product is taken over all absolute values $w \in M_L$ extending ν .

Definition 2. Yang: To be added.

Appendix