Title

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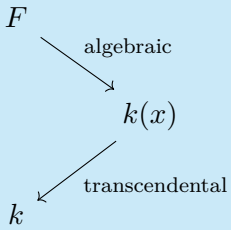
1.1 Chapter 1

Let k be a field, not necessarily algebraically closed.

Definition 1.1.1 (Algebraic Function Field)**.**
An one variable **algebraic function field** F/K is a field extension F of K which factors as



where $x \in \bar{k}$ is some element that is not algebraic over k.

Definition 1.1.2 (Field of Constants)**.**
The subfield

$$\tilde{K} \coloneqq \left\{ z \in F \cap K^{\text{alg}} \right\} \leq F,$$

consisting of elements that are algebraic over F is denoted the **field of constants**.

Definition 1.1.3 (Algebraically Closed)**.**
If $F =$