

PREVIOUSLY...

THM. (Riemann-Roch) Let C be a smooth curve, K_C a canonical divisor.

Let $L(D) = \{f \in \bar{K}(C)^* : \text{div}(f) \geq -D\} \cup \{0\}$. Then, there is $g \geq 0$ st.

for all $D \in \text{Div}(C)$ we have

where $l(D) = \dim_{\bar{K}} L(D)$.

$$l(D) - l(K_C - D) = \deg D - g + 1$$

COR. (a) $l(K_C) = g$, (b) $\deg(K_C) = 2g - 2$, (c) If $\deg D > 2g - 2$, then $l(D) = \deg D - g + 1$.

THM. (Hurwitz) Let $\phi : C_1 \rightarrow C_2$ be a non-constant, separable, map of

