We define the residue map see p 233

$$R : \mathcal{H}^1(\Omega(*)) \longrightarrow \bigoplus_{D \in \mathrm{Div}(M)} \mathbb{C}_D$$

by $\quad R(\varphi) = \bigoplus_i \lambda_i \cdot 1_{D_i}$

⊢ $\mathbb{C}_D$ is the constant sheaf concentrated on divisor $D$.
$\Rightarrow$ $\mathbb{C}_D(U) \cong \mathbb{C}$ if $U \cap D \neq \phi$, $U$ connected.
$\qquad\qquad 0$ otherwise.
More precisely, $\mathbb{C}$ is given the discrete topology

$\mathbb{C}_D(U) = \{ f : U \longrightarrow \mathbb{C}$ continuous s.t $f = 0$ on $U - D \}$
$\Rightarrow$ $C_D(U \cap V) \ni \sigma = \tau$ $\Rightarrow$ $\exists^? \rho \in C_D(U \cup V)$ s.t
$\rho|_U = \sigma$ $\rho|_V = \tau$. Define $\rho : U \cup V \longrightarrow \mathbb{C}$ by
$\rho(x) = \sigma(x)$ if $x \in U$
$\rho(x) = \tau(x)$ if $x \in V$. ⊣

The notation means that $R(\varphi)$ is the constant $\lambda_i$ on the divisor $D_i$.

⊢

$$R_U : \mathcal{H}^1(\Omega(*))(U) \longrightarrow \bigoplus_{D \in \mathrm{Div} M} \mathbb{C}_D(U)$$
$$\varphi \longmapsto \frac{1}{2\pi\sqrt{-1}} \int_{\gamma_D} \varphi \cdot 1_D$$

where $1_D : U \longrightarrow \mathbb{C}$ defined by
if $x \in U \cap D$, $1_D(x) = 1 \in \mathbb{C}$
if $x \notin U \cap D$, " $= 0 \in \mathbb{C}$. ⊣