「 For the fact that the divisor (φ) is homologous to zero, see p144.

Since (φ) is homologous to zero, $(\varphi)_0$ is homologous to $(\varphi)_\infty$. Let $(\varphi)_0 = V_0$, $(\varphi)_\infty = V_\infty$.
$\Rightarrow$ $c_1([V_0]) = \eta_{V_0}$ $c_1([V_\infty]) = \eta_{V_\infty}$ (see P 141 Prop. 2.)
$\Rightarrow$ $\eta_{V_0} = \eta_{V_\infty}$ since $V_0 \sim V_\infty$.

But since line bundles over $\mathbb{P}^n$ are classified by their first Chern classes, $[V_0] = [V_\infty] = H^d$ for some d.
$\Rightarrow$ F & G have the same degree since all sections are homogeneous polynomials of degree d.

Obviously, F/G is a well-defined rational function on $\mathbb{P}^n$.

$$\left(\frac{F}{G}\right) = (F=0) - (G=0) = (\varphi)_0 - (\varphi)_\infty$$
$$= (\varphi)$$

$\Rightarrow$ $\dfrac{F}{G\varphi}$ is holomorphic on $\mathbb{P}^n$.

$\Rightarrow$ $\dfrac{F}{G\varphi}$ must be constant $\Rightarrow \lambda \dfrac{F}{G} = \varphi$ for some $\lambda \in \mathbb{C}$. 」

Now if $V \subset \mathbb{P}^n$ is any smooth variety, a meromorphic function on V is called rational if it is the restriction to V of a rational function on $\mathbb{P}^n$.