By ⊛, they must have the same multiplicities.
$\Rightarrow d=1$.

$\Rightarrow f$ is linear & has an inverse. $\Rightarrow f$ can be extended to $\mathbb{P}^n$.

In particular, if V and V' are smooth hypersurfaces of dimension ≥ 3 and degree $d \neq n+1$ in $\mathbb{P}^n$, then by the adjunction formula

$$K_V = (K_{\mathbb{P}^n} \otimes [V])|_V = [(d-n-1)H]$$

and likewise for V'.

By P147, adjunction formula II, and by P146, $K_{\mathbb{P}^n} = [-(n+1)H]$,

$$K_V = (K_{\mathbb{P}^n} \otimes [V])|_V = ([-(n+1)H] \otimes [V])|_V.$$

But since $[V]$ has degree d, by P145 & P171,
$[V] = d[H] \in H_{n-1}(\mathbb{P}^n, \mathbb{Z})$.

$$\Rightarrow K_V = ([-(n+1)H] \otimes [dH])|_V = ([(d-n-1)H])|_V.$$

But by the Lefschetz theorem on hyperplane sections

$$H^1(V, \mathcal{O}) \cong H^1(\mathbb{P}^n, \mathcal{O}) = 0, \quad H^2(V, \mathcal{O}) \cong H^2(\mathbb{P}^n, \mathcal{O}) = 0$$

so from the long exact cohomology sequence associated to the exponential sheaf sequence and the Lefschetz theorem again

$$\mathrm{Pic}(V) = H^1(V, \mathcal{O}^*) \cong H^2(V, \mathbb{Z}) \cong H^2(\mathbb{P}^n, \mathbb{Z}) = \mathbb{Z}$$