$$
k \mid w=\underbrace{k \mid w^{2}} \times w \underbrace{k \mid w^{2}}=\underbrace{k \mid z} \times w \underbrace{k \mid z}=\widetilde{k \mid z}^{1: w}
$$

$$
\begin{aligned}
& C \xrightarrow[\text { onj }]{\pi} \mathbb{P} \\
& { }^{C} k \underset{\text { inj }}{\stackrel{\pi}{k}}{ }^{\mathbb{P}} k=k \mid z \text { rat } \\
& \sqrt{z}=\frac{z: w \in \mathbb{C}^{2}}{w^{2}=z} \xrightarrow[\text { onj }]{\pi} \mathbb{P} \ni z \\
& k\left|w={ }^{C} k \underset{\text { inj }}{\stackrel{\pi}{k}}{ }^{\mathbb{P}} k=k\right| z \text { rat }
\end{aligned}
$$

