$$\begin{CD} G @>{\varphi}>> \operatorname{im}\varphi \\ @V{\pi}VV @. \\ G/\ker\varphi @>{\tilde{\varphi}}>> \end{CD}$$

The diagram shows G mapping to $\operatorname{im}\varphi$ via φ, G mapping to $G/\ker\varphi$ via π, and $G/\ker\varphi$ mapping to $\operatorname{im}\varphi$ via $\tilde{\varphi}$.