

$$a \mapsto \phi(a)$$

$$\begin{array}{ccc}
 R & \xrightarrow{\phi} & K \\
 \downarrow \iota & & \uparrow \exists! \Phi \\
 & & Q(R)
 \end{array}
 \qquad
 \begin{array}{c}
 \phi(k) \\
 \uparrow \\
 \frac{a}{1}
 \end{array}$$

a

$\frac{a}{1}$