

$$(n \cdot R) + Q \longrightarrow M,$$

$$nr + q \mapsto \alpha(r) + \varphi(q).$$

$$\begin{array}{ccc} I & \hookrightarrow & R \\ \downarrow n \cdot & & \downarrow \exists \alpha \\ Q & \longrightarrow & M \end{array}$$