

$$f(a, b) = 2(ab)$$

$$g(a, b) = 2(a/b)$$

$$\begin{array}{ccc} \mathbb{Z} & \times & \mathbb{Z} \\ \swarrow & | & \searrow \\ \pi_1 & ab & \pi_2 \\ \searrow & \downarrow & \swarrow \\ & \mathbb{Z} & \end{array} \quad \begin{array}{c} \circlearrowleft \\ 2. \end{array}$$

$$\begin{array}{ccc} \mathbb{Z} & \times & \mathbb{Z} \\ \swarrow & & \searrow \\ \pi_1 & & \pi_2 \\ \searrow & & \swarrow \\ & \mathbb{Z} & \end{array} \xrightarrow{a/b} \mathbb{R} \oplus \text{Error} \quad \begin{array}{c} \circlearrowleft \\ 2. \end{array}$$