

$$\frac{\frac{A \xrightarrow{\varphi} X}{A \xrightarrow{\varphi} X \xrightarrow{f} Y} (A, f)}{A \xrightarrow{\varphi} X \xrightarrow{f} Y \xrightarrow{g} Z} (A, g) = \frac{A \xrightarrow{\varphi} X}{A \xrightarrow{\varphi} X \xrightarrow{fg} Z} (A, fg)$$