

$$\begin{array}{ccccc}
 0 & \longrightarrow & B & \xlongequal{\quad} & B \\
 \downarrow 0 & & \downarrow \text{=} & & \downarrow g \\
 A & \xrightarrow{f} & B & \xrightarrow{g} & C
 \end{array}$$