

$$\begin{array}{ccccccc}
 & & 0 & & 0 & & \\
 & & \downarrow & & \downarrow & & \\
 & & I & \xlongequal{\quad} & I & & \\
 & & \downarrow & & \downarrow & & \\
 0 \longrightarrow & X & \xrightarrow{\begin{pmatrix} 0 \\ 1 \end{pmatrix}} & A \oplus X & \xrightarrow{(1,0)} & A & \longrightarrow 0 \\
 & \parallel & & \downarrow (\varphi, \subseteq) & & \downarrow & \\
 0 \longrightarrow & X & \xrightarrow{\subseteq} & Y & \longrightarrow & A/I & \longrightarrow 0 \\
 & & & \downarrow & & \downarrow & \\
 & & & 0 & & 0 & 
 \end{array}$$