Theorem 1. *$S\ K\ K = I$.*

Proof.

$$\begin{aligned}
&(\lambda x\ y\ z.x\ z\ (y\ z))\ \underline{(\lambda x\ y.x)\ (\lambda x\ y.x)}\ =\ \lambda x.x \\
&\downarrow \alpha, \textit{normal strategy} \\
&(\underline{(\lambda x\ y\ z.x\ z\ (y\ z))\ (\lambda x'\ y'.x')})\ (\lambda x''\ y''.x'')\ =\ \lambda x.x \\
&\downarrow \beta \\
&\underline{(\lambda y\ z.(\lambda x'\ y'.x')\ z\ (y\ z))\ (\lambda x''\ y''.x'')}\ =\ \lambda x.x \\
&\downarrow \beta \\
&\lambda z.(\lambda x'\ y'.x')\ z\ ((\lambda x''\ y''.x'')\ z)\ =\ \lambda x.x \\
&\downarrow \textit{normal strategy} \\
&\lambda z.(\underline{(\lambda x'\ y'.x')\ z})\ ((\lambda x''\ y''.x'')\ z)\ =\ \lambda x.x \\
&\downarrow \beta \\
&\lambda z.(\lambda y'.z)\ ((\lambda x''\ y''.x'')\ z)\ =\ \lambda x.x \\
&\downarrow \beta \\
&\underline{\lambda z.z}\ =\ \lambda x.x \\
&\downarrow \alpha \\
&\lambda x.x\ =\ \lambda x.x
\end{aligned}$$

$\square$