

Q-R-pre-preserving-compose^{11,40}

$\forall es:ES, P_1, P_2:(E \rightarrow \mathbb{P}), Q_1, Q_2, Q_3:(E \rightarrow E \rightarrow \mathbb{P}), f_1:(\{e:E \mid P_1(e)\} \rightarrow \{e:E \mid P_2(e)\}),$
 $f_2:(\{e:E \mid P_2(e)\} \rightarrow E).$
 f_1 is Q_2 - Q_3 -pre-preserving on P_1
 $\Rightarrow f_2$ is Q_1 - Q_2 -pre-preserving on P_2
 $\Rightarrow f_2 \circ f_1$ is Q_1 - Q_3 -pre-preserving on P_1