

## Q-R-pre-preserving-rewrite-test<sup>11,40</sup>

$\forall es:ES, P_1, P_2:(E \rightarrow \mathbb{P}), Q_1, R_1, Q_2, R_2:(E \rightarrow E \rightarrow \mathbb{P}), f:(\{e:E \mid P_1(e)\} \rightarrow E).$   
 $P_2 \Rightarrow P_1$   
 $\Rightarrow Q_2 \Rightarrow Q_1$   
 $\Rightarrow R_1 \Rightarrow R_2$   
 $\Rightarrow \{f \text{ is } Q_1\text{-}R_1\text{-pre-preserving on } P_1 \Rightarrow f \text{ is } Q_2\text{-}R_2\text{-pre-preserving on } P_2\}$