

1:  $J \cdot H = \text{id}, H \cdot F = H \cdot G$  assumptions

...

2:  $J \cdot H \cdot F = G$

3:  $\text{id} \cdot F = G$

Unfold with hypothesis 1.1,2

4:  $F = G$

Fold using Conjecture  $F = \text{id} \cdot F$  3