

...

$$1: \text{rev}(\text{rev } x) = x$$

$$2: \text{rev}(\text{rev } x) = \text{id } x \quad \text{Fold rewrite, id 1}$$

$$3: (\text{rev} \cdot \text{rev})x = \text{id } x \quad \text{Fold rewrite, } \cdot \text{ 2}$$

$$4: \text{rev} \cdot \text{rev} = \text{id} \quad \text{ext 3}$$