

$$+-identity^r : \forall \{n\} \rightarrow n + zero \equiv n$$

$$+-identity^r \{zero\} = refl$$

$$+-identity^r \{suc\ n\} \text{rewrite } +-identity^r \{n\} = refl$$

$$+-suc^r : \forall \{m\ n\} \rightarrow m + suc\ n \equiv suc\ (m + n)$$

$$+-suc^r \{zero\} \{n\} = refl$$

$$+-suc^r \{suc\ m\} \{n\} \text{rewrite } +-suc^r \{m\} \{n\} = refl$$

$$+-comm : \forall \{m\ n\} \rightarrow m + n \equiv n + m$$

$$+-comm \{m\} \{zero\} = +-identity^r$$

$$+-comm \{m\} \{suc\ n\}$$

$$\text{rewrite } (+-suc^r \{m\} \{n\}) \mid (+-comm \{m\} \{n\}) = refl$$