t72_quatern3 (TMSHoUJgB-PLUV3QsRA5Kjx2Rn9oD6WbpxXU)

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Let $v1\_quaterni : \iota \Rightarrow o$ be given. Let $k29\_quaterni : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k26\_quaterni : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1\_quaterni\ X0) \Rightarrow (\forall X1.(v1\_quaterni\ X1) \Rightarrow (\forall X2.\ (v1\_quaterni\ X2) \Rightarrow (k29\_quaterni\ X0\ (k26\_quaterni\ X1\ X2) = k29\_quaterni\ (k29\_quaterni\ X0\ X1)\ X2))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_quaterni\ X0) \wedge (v1\_quaterni\ X1)) \Rightarrow (\ k26\_quaterni\ X0\ X1 = k26\_quaterni\ X1\ X0) \tag{2}$$

Theorem 1

$$\forall X0.(v1\_quaterni\ X0) \Rightarrow (\forall X1.(v1\_quaterni\ X1) \Rightarrow (\forall X2.\ (v1\_quaterni\ X2) \Rightarrow (k29\_quaterni\ (k29\_quaterni\ X0\ X1)\ X2 = k29\_quaterni\ (k29\_quaterni\ X0\ X2)\ X1)))$$