

t53\_quatern2 (TMR-  
fwVRX8kb2puMzAEv8uu2mvimXhQMRoBq)

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Let  $v1\_quaterni : \iota \Rightarrow o$  be given. Let  $k18\_quatern2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k26\_quaterni : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k27\_quaterni : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k31\_quaterni : \iota \Rightarrow \iota$  be given. Let  $k1\_quaterni : \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1\_quaterni X0) \Rightarrow (\forall X1.(v1\_quaterni X1) \Rightarrow (\forall X2. \\ & (v1\_quaterni X2) \Rightarrow (k27\_quaterni (k26\_quaterni X0 X1) X2 = k26\_quaterni \\ & (k27\_quaterni X0 X2) (k27\_quaterni X1 X2)))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.(v1\_quaterni X0) \Rightarrow (m1\_subset\_1 (k31\_quaterni X0) k1\_quaterni) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_quaterni X0) \wedge (v1\_quaterni X1)) \Rightarrow (m1\_subset\_1 (k26\_quaterni X0 X1) k1\_quaterni) \quad (3)$$

Assume the following.

$$\forall X0.(v1\_quaterni X0) \Rightarrow (\forall X1.(v1\_quaterni X1) \Rightarrow (k18\_quatern2 X0 X1 = k27\_quaterni X0 (k31\_quaterni X1))) \quad (4)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_quaterni) \Rightarrow (v1\_quaterni X0) \quad (5)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(v1\_quaterni X0) \Rightarrow (\forall X1.(v1\_quaterni X1) \Rightarrow (\forall X2. \\ & (v1\_quaterni X2) \Rightarrow (k18\_quatern2 (k26\_quaterni X0 X1) X2 = k26\_quaterni \\ & (k18\_quatern2 X0 X2) (k18\_quatern2 X1 X2)))) \end{aligned}$$