

# t33\_quatern3

(TMHCn1dUfbxRdfXtrQuJEQWa1YuyaL3a4zq)

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Let  $v1\_quaterni : \iota \Rightarrow o$  be given. Let  $k3\_quatern2 : \iota \Rightarrow \iota$  be given. Let  $k27\_quaterni : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k31\_quaterni : \iota \Rightarrow \iota$  be given. Let  $k5\_square\_1 : \iota \Rightarrow \iota$  be given. Let  $k32\_quaterni : \iota \Rightarrow \iota$  be given. Let  $k7\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k17\_quaterni : \iota \Rightarrow \iota$  be given. Let  $k18\_quaterni : \iota \Rightarrow \iota$  be given. Let  $k19\_quaterni : \iota \Rightarrow \iota$  be given. Let  $k20\_quaterni : \iota \Rightarrow \iota$  be given. Let  $k10\_quaterni : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.(v1\_quaterni X0) \Rightarrow & (k32\_quaterni (k27\_quaterni X0 X0) = \\ & k7\_real\_1 (k7\_real\_1 (k7\_real\_1 (k5\_square\_1 (k17\_quaterni X0)) \\ & (k5\_square\_1 (k18\_quaterni X0))) (k5\_square\_1 (k19\_quaterni \\ & X0))) (k5\_square\_1 (k20\_quaterni X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.(v1\_quaterni X0) \Rightarrow (k3\_quatern2 (k27\_quaterni X0 X0) = k3\_quatern2 (k27\_quaterni (k31\_quaterni X0) (k31\_quaterni X0))) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1\_quaterni X0) \Rightarrow & (k5\_square\_1 (k3\_quatern2 X0) = k7\_real\_1 \\ & (k7\_real\_1 (k7\_real\_1 (k5\_square\_1 (k17\_quaterni X0)) (k5\_square\_1 \\ & (k18\_quaterni X0))) (k5\_square\_1 (k19\_quaterni X0))) (k5\_square\_1 \\ & (k20\_quaterni X0))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.(v1\_quaterni X0) \Rightarrow (k3\_quatern2 X0 = k32\_quaterni X0) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_quaterni X0) \wedge (v1\_quaterni X1)) \Rightarrow (k27\_quaterni X0 X1 = k10\_quaterni X0 X1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_quaterni X0) \wedge (v1\_quaterni X1)) \Rightarrow (v1\_quaterni (k10\_quaterni X0 X1)) \quad (6)$$

**Theorem 1**

$$\forall X0.(v1\_quaterni X0) \Rightarrow (k3\_quatern2 (k27\_quaterni (k31\_quaterni X0) (k31\_quaterni X0)) = k5\_square\_1 (k3\_quatern2 X0))$$