

# t3\_quatern3 (TMSd- WCwZzyfY3UdpkHiS9XGpJRXpF8n4zu5)

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Let  $v1\_quaterni : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k29\_quaterni : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_quaterni : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k17\_quaterni : \iota \Rightarrow \iota$  be given. Let  $k1\_real\_1 : \iota \Rightarrow \iota$  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  $k28\_quaterni : \iota \Rightarrow \iota$  be given. Let  $k11\_quaterni : \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k12\_quaterni : \iota$  be given. Let  $k1\_xcmplx\_0 : \iota$  be given. Let  $k5\_quaterni : \iota$  be given. Let  $k26\_quaterni : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k21\_quaterni : \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.(v1\_quaterni X0) \Rightarrow (\forall X1.(v1\_quaterni X1) \Rightarrow (k29\_quaterni \\ X0 X1 = k6\_quaterni (k9\_real\_1 (k17\_quaterni X0) (k17\_quaterni \\ X1)) (k9\_real\_1 (k18\_quaterni X0) (k18\_quaterni X1)) (k9\_real\_1 \\ (k19\_quaterni X0) (k19\_quaterni X1)) (k9\_real\_1 (k20\_quaterni \\ X0) (k20\_quaterni X1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1\_quaterni X0) \Rightarrow (\forall X1.(v1\_quaterni X1) \Rightarrow (( \\ k17\_quaterni (k29\_quaterni X0 X1) = k9\_real\_1 (k17\_quaterni X0) \\ (k17\_quaterni X1)) \wedge ((k18\_quaterni (k29\_quaterni X0 X1) = k9\_real\_1 \\ (k18\_quaterni X0) (k18\_quaterni X1)) \wedge ((k19\_quaterni (k29\_quaterni \\ X0 X1) = k9\_real\_1 (k19\_quaterni X0) (k19\_quaterni X1)) \wedge (k20\_quaterni \\ (k29\_quaterni X0 X1) = k9\_real\_1 (k20\_quaterni X0) (k20\_quaterni \\ X1)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1\_quaterni X0) \Rightarrow ((k17\_quaterni (k28\_quaterni X0) = \\ k1\_real\_1 (k17\_quaterni X0)) \wedge ((k18\_quaterni (k28\_quaterni X0) = \\ k1\_real\_1 (k18\_quaterni X0)) \wedge ((k19\_quaterni (k28\_quaterni X0) = \\ k1\_real\_1 (k19\_quaterni X0)) \wedge (k20\_quaterni (k28\_quaterni X0) = \\ k1\_real\_1 (k20\_quaterni X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$(k17\_quaterni\ k11\_quaterni = k6\_numbers) \wedge ((k18\_quaterni\ k11\_quaterni = k6\_numbers) \wedge ((k19\_quaterni\ k11\_quaterni = np\_1) \wedge ((k20\_quaterni\ k11\_quaterni = k6\_numbers) \wedge ((k17\_quaterni\ k12\_quaterni = k6\_numbers) \wedge ((k18\_quaterni\ k12\_quaterni = k6\_numbers) \wedge ((k19\_quaterni\ k12\_quaterni = k6\_numbers) \wedge (k20\_quaterni\ k12\_quaterni = np\_1))))))) \quad (4)$$

Assume the following.

$$(k17\_quaterni\ k1\_xcmplx\_0 = k6\_numbers) \wedge ((k18\_quaterni\ k1\_xcmplx\_0 = np\_1) \wedge ((k19\_quaterni\ k1\_xcmplx\_0 = k6\_numbers) \wedge (k20\_quaterni\ k1\_xcmplx\_0 = k6\_numbers))) \quad (5)$$

Assume the following.

$$k12\_quaterni = k5\_quaterni \quad (6)$$

Assume the following.

$$\forall X0.(v1\_quaterni\ X0) \Rightarrow (k26\_quaterni\ X0\ k21\_quaterni = X0) \quad (7)$$

Assume the following.

$$\forall X0.(v1\_quaterni\ X0) \Rightarrow ((m1\_subset\_1\ X0\ k1\_numbers) \Rightarrow ((X0 = k17\_quaterni\ X0) \wedge ((k18\_quaterni\ X0 = k6\_numbers) \wedge ((k19\_quaterni\ X0 = k6\_numbers) \wedge (k20\_quaterni\ X0 = k6\_numbers)))))) \quad (8)$$

Assume the following.

$$\forall X0.(v1\_quaterni\ X0) \Rightarrow (\forall X1.(v1\_quaterni\ X1) \Rightarrow (k29\_quaterni\ X0\ X1 = k28\_quaterni\ (k29\_quaterni\ X1\ X0))) \quad (9)$$

Assume the following.

$$\forall X0.(v1\_quaterni\ X0) \Rightarrow (\forall X1.(v1\_quaterni\ X1) \Rightarrow (X0 = k29\_quaterni\ (k26\_quaterni\ X0\ X1)\ X1)) \quad (10)$$

Assume the following.

$$v1\_quaterni\ k5\_quaterni \quad (11)$$

Assume the following.

$$v1\_quaterni\ k1\_xcmplx\_0 \quad (12)$$

Assume the following.

$$v1\_quaterni\ k21\_quaterni \quad (13)$$

Assume the following.

$$\forall X0.(v1\_quaterni\ X0) \Rightarrow (m1\_subset\_1\ (k20\_quaterni\ X0)\ k1\_numbers) \quad (14)$$

Assume the following.

$$k21\_quaterni = k6\_numbers \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_quaterni X0)\wedge(v1\_quaterni X1))\Rightarrow( \quad (16)$$

$$k26\_quaterni X0 X1 = k26\_quaterni X1 X0)$$

**Theorem 1**

$$\forall X0.(v1\_quaterni X0)\Rightarrow(\forall X1.(v1\_quaterni X1)\Rightarrow(($$

$$m1\_subset\_1 X0 k1\_numbers)\Rightarrow(k29\_quaterni X0 X1 = k6\_quaterni ($$

$$k9\_real\_1 (k17\_quaterni X0) (k17\_quaterni X1)) (k1\_real\_1 (k18\_quaterni$$

$$X1)) (k1\_real\_1 (k19\_quaterni X1)) (k1\_real\_1 (k20\_quaterni X1))))))$$