

t77\_quatern3  
(TMGczttZ4UpD9HvvNaeiMHugMgf6Co1skNK)

October 27, 2020

Let  $k8\_quatern2 : \iota \Rightarrow \iota$  be given. Let  $k12\_quaterni : \iota$  be given. Let  $k28\_quaterni : \iota \Rightarrow \iota$  be given. Let  $v1\_quaterni : \iota \Rightarrow o$  be given. Let  $k6\_quaterni : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k17\_quaterni : \iota \Rightarrow \iota$  be given. Let  $k5\_square\_1 : \iota \Rightarrow \iota$  be given. Let  $k3\_quatern2 : \iota \Rightarrow \iota$  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  $k32\_quaterni : \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k7\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k31\_quaterni : \iota \Rightarrow \iota$  be given. Let  $k11\_quaterni : \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_0 : \iota$  be given. Let  $k4\_xcmplx\_0 : \iota \Rightarrow \iota$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_square\_1 : \iota \Rightarrow \iota$  be given. Let  $k5\_quaterni : \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0.(v1\_quaterni X0) \Rightarrow & (k8\_quatern2 X0 = k6\_quaterni (k10\_real\_1 \\ & (k17\_quaterni X0) (k5\_square\_1 (k3\_quatern2 X0))) (k1\_real\_1 \\ & (k10\_real\_1 (k18\_quaterni X0) (k5\_square\_1 (k3\_quatern2 X0)))) \\ & (k1\_real\_1 (k10\_real\_1 (k19\_quaterni X0) (k5\_square\_1 (k3\_quatern2 \\ & X0)))) (k1\_real\_1 (k10\_real\_1 (k20\_quaterni X0) (k5\_square\_1 \\ & (k3\_quatern2 X0)))))) \end{aligned} \quad (1)$$

Assume the following.

$$k32\_quaterni k12\_quaterni = np\_1 \quad (2)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (3)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (k7\_xcmplx\_0 X0 np\_1 = X0) \quad (4)$$

Assume the following.

$$k31\_quaterni\ k12\_quaterni = k28\_quaterni\ k12\_quaterni \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1\_quaterni\ X0) \Rightarrow & (k31\_quaterni\ X0 = k6\_quaterni\ (k17\_quaterni \\ & X0)\ (k1\_real\_1\ (k18\_quaterni\ X0))\ (k1\_real\_1\ (k19\_quaterni\ X0)) \\ & (k1\_real\_1\ (k20\_quaterni\ X0))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} (k17\_quaterni\ k11\_quaterni = k6\_numbers) \wedge & ((k18\_quaterni\ k11\_quaterni = \\ & k6\_numbers) \wedge ((k19\_quaterni\ k11\_quaterni = np\_1) \wedge ((k20\_quaterni \\ k11\_quaterni = k6\_numbers) \wedge & ((k17\_quaterni\ k12\_quaterni = k6\_numbers) \wedge \\ ((k18\_quaterni\ k12\_quaterni = k6\_numbers) \wedge & ((k19\_quaterni\ k12\_quaterni = \\ k6\_numbers) \wedge (k20\_quaterni\ k12\_quaterni = np\_1)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} ((v2\_xreal\_0\ np\_1) \wedge (m2\_subset\_1\ np\_1\ k1\_numbers\ k5\_numbers)) \wedge \\ ((m1\_subset\_1\ np\_1\ k5\_numbers) \wedge (m1\_subset\_1\ np\_1\ k1\_numbers)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} (m2\_subset\_1\ np\_0\ k1\_numbers\ k5\_numbers) \wedge ((m1\_subset\_1\ np\_0 \\ k5\_numbers) \wedge (m1\_subset\_1\ np\_0\ k1\_numbers)) \end{aligned} \quad (9)$$

Assume the following.

$$v1\_xboole\_0\ np\_0 \quad (10)$$

Assume the following.

$$k4\_xcmplx\_0\ np\_0 = np\_0 \quad (11)$$

Assume the following.

$$k3\_xcmplx\_0\ np\_1\ np\_1 = np\_1 \quad (12)$$

Assume the following.

$$k7\_xcmplx\_0\ np\_1\ np\_1 = np\_1 \quad (13)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1\ X0\ k1\_numbers) \Rightarrow & (k5\_square\_1\ X0 = k3\_square\_1 \\ & X0) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0.(v1\_quaterni\ X0)\Rightarrow(k3\_quatern2\ X0 = k32\_quaterni\ X0) \quad (16)$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow(k1\_real\_1\ X0 = k4\_xcmplx\_0\ X0) \quad (17)$$

Assume the following.

$$k12\_quaterni = k5\_quaterni \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1\ X0\ k1\_numbers)\wedge(v1\_xreal\_0\ X1))\Rightarrow(k10\_real\_1\ X0\ X1 = k7\_xcmplx\_0\ X0\ X1) \quad (19)$$

Assume the following.

$$\exists X0.(v1\_xboole\_0\ X0)\wedge((v1\_xcmplx\_0\ X0)\wedge((v1\_xxreal\_0\ X0)\wedge(v1\_xreal\_0\ X0))) \quad (20)$$

Assume the following.

$$v1\_quaterni\ k5\_quaterni \quad (21)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0)\Rightarrow(k3\_square\_1\ X0 = k3\_xcmplx\_0\ X0\ X0) \quad (22)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0)\Rightarrow(v1\_xcmplx\_0\ X0) \quad (23)$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow(v1\_xreal\_0\ X0) \quad (24)$$

**Theorem 1**  $k8\_quatern2\ k12\_quaterni = k28\_quaterni\ k12\_quaterni$ .