

t75_quatern3 (TMS- fKUYJ3F5Q79ULBXRZb6TVp2LtLa8aCcS)

October 27, 2020

Let $k8_quatern2 : \iota \Rightarrow \iota$ be given. Let $k4_quatern2 : \iota$ be given. Let $k28_quaterni : \iota \Rightarrow \iota$ 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 $np_1 : \iota$ be given. Let $k32_quaterni : \iota \Rightarrow \iota$ be given. Let $k1_xcmplx_0 : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k6_quaterni : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $k17_quaterni : \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ 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 $v1_quaterni : \iota \Rightarrow o$ be given. Let $k10_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_square_1 : \iota \Rightarrow \iota$ be given. Let $k3_quatern2 : \iota \Rightarrow \iota$ 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 $k5_numbers : \iota$ 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 $k7_quatern2 : \iota \Rightarrow \iota$ be given. Let $k3_square_1 : \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $v1_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k7_xcmplx_0 X0 np_1 = X0) \quad (2)$$

Assume the following.

$$k32_quaterni k1_xcmplx_0 = np_1 \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 k1_numbers) \Rightarrow (\forall X2.(m1_subset_1 X2 k1_numbers) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 k1_numbers) \Rightarrow (k28_quaterni (k6_quaterni X0 X1 \\ & X2 X3) = k6_quaterni (k1_real_1 X0) (k1_real_1 X1) (k1_real_1 X2) \\ & (k1_real_1 X3)))))) \end{aligned} \quad (4)$$

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.

$$\begin{aligned} \forall X0.(v1_quaterni\ X0) \Rightarrow & ((k17_quaterni\ (k8_quatern2\ X0) = k10_real_1\ (k17_quaterni\ X0)\ (k5_square_1\ (k3_quatern2\ X0))) \wedge \\ & ((k18_quaterni\ (k8_quatern2\ X0) = k1_real_1\ (k10_real_1\ (k18_quaterni\ X0)\ (k5_square_1\ (k3_quatern2\ X0)))) \wedge ((k19_quaterni\ (k8_quatern2\ X0) = k1_real_1\ (k10_real_1\ (k19_quaterni\ X0)\ (k5_square_1\ (k3_quatern2\ X0)))) \wedge (k20_quaterni\ (k8_quatern2\ X0) = k1_real_1\ (k10_real_1\ (k20_quaterni\ X0)\ (k5_square_1\ (k3_quatern2\ X0)))))) \quad (6) \end{aligned}$$

Assume the following.

$$\forall X0.(v1_quaterni\ X0) \Rightarrow (X0 = k6_quaterni\ (k17_quaterni\ X0)\ (k18_quaterni\ X0)\ (k19_quaterni\ X0)\ (k20_quaterni\ X0)) \quad (7)$$

Assume the following.

$$((v2_xxreal_0\ np_1) \wedge (m2_subset_1\ np_1\ k1_numbers\ k5_numbers)) \wedge ((m1_subset_1\ np_1\ k5_numbers) \wedge (m1_subset_1\ np_1\ k1_numbers)) \quad (8)$$

Assume the following.

$$(m2_subset_1\ np_0\ k1_numbers\ k5_numbers) \wedge ((m1_subset_1\ np_0\ k5_numbers) \wedge (m1_subset_1\ np_0\ k1_numbers)) \quad (9)$$

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.

$$\forall X0.(v1_quaterni\ X0) \Rightarrow (k8_quatern2\ X0 = k7_quatern2\ X0) \quad (14)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (15)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (k5_square_1 X0 = k3_square_1 X0) \quad (16)$$

Assume the following.

$$k4_quatern2 = k1_xcmplx_0 \quad (17)$$

Assume the following.

$$\forall X0.(v1_quaterni X0) \Rightarrow (k3_quatern2 X0 = k32_quaterni X0) \quad (18)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (k1_real_1 X0 = k4_xcmplx_0 X0) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k1_numbers) \wedge (v1_xreal_0 X1)) \Rightarrow (k10_real_1 X0 X1 = k7_xcmplx_0 X0 X1) \quad (20)$$

Assume the following.

$$v1_quaterni k1_xcmplx_0 \quad (21)$$

Assume the following.

$$v3_membered k1_numbers \quad (22)$$

Assume the following.

$$\forall X0.(v1_quaterni X0) \Rightarrow (v1_quaterni (k7_quatern2 X0)) \quad (23)$$

Assume the following.

$$\forall X0.(v1_quaterni X0) \Rightarrow (v1_xreal_0 (k32_quaterni X0)) \quad (24)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k3_square_1 X0 = k3_xcmplx_0 X0 X0) \quad (25)$$

Assume the following.

$$\forall X0.(v3_membered X0) \Rightarrow (v1_membered X0) \quad (26)$$

Assume the following.

$$\forall X0.(v1_membered X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow (v1_xcmplx_0 X1)) \quad (27)$$

Theorem 1 $k8_quatern2 k4_quatern2 = k28_quaterni k4_quatern2$.