

t43_quaterni (TMGuyhSzyG- WaS5qbNZyCGGpeVHVWHsdRnjE)

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Let $v1_quaterni : \iota \Rightarrow o$ be given. Let $k31_quaterni : \iota \Rightarrow \iota$ be given. Let $k6_quaterni : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k30_quaterni : \iota \Rightarrow \iota$ be given. Let $k8_quaterni : \iota \Rightarrow \iota$ be given. Let $k26_quaterni : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_quaterni : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_quaterni : \iota$ be given. Let $k5_quaterni : \iota$ be given. Let $k11_quaterni : \iota$ be given. Let $k4_quaterni : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k23_quaterni : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k25_quaterni : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xcmplx_0 : \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.(v1_quaterni X0) \Rightarrow (&((k17_quaterni (k28_quaterni X0) = \\ &k1_real_1 (k17_quaterni X0)) \wedge ((k18_quaterni (k28_quaterni X0) = \\ &k1_real_1 (k18_quaterni X0)) \wedge ((k19_quaterni (k28_quaterni X0) = \\ &k1_real_1 (k19_quaterni X0)) \wedge (k20_quaterni (k28_quaterni X0) = \\ &k1_real_1 (k20_quaterni X0)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.(v1_quaterni X0) \Rightarrow (k31_quaterni X0 = k30_quaterni X0) \quad (2)$$

Assume the following.

$$\forall X0.(v1_quaterni X0) \Rightarrow (k28_quaterni X0 = k8_quaterni X0) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((v1_quaterni X0) \wedge (v1_quaterni X1)) \Rightarrow (\\ k26_quaterni X0 X1 = k7_quaterni X0 X1) \quad (4)$$

Assume the following.

$$k12_quaterni = k5_quaterni \quad (5)$$

Assume the following.

$$k11_quaterni = k4_quaterni \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 k1_numbers) \Rightarrow (\forall X2.(m1_subset_1 X2 k1_numbers) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 k1_numbers) \Rightarrow (k6_quaterni X0 X1 X2 X3 = k7_quaterni \\ & (k7_quaterni (k23_quaterni X0 (k25_quaterni X1 k1_xcmplx_0)) \\ & (k25_quaterni X2 k11_quaterni)) (k25_quaterni X3 k12_quaterni)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1_quaterni X0) \wedge (v1_quaterni X1)) \Rightarrow (v1_quaterni (k7_quaterni X0 X1)) \quad (8)$$

Assume the following.

$$v1_quaterni k5_quaterni \quad (9)$$

Assume the following.

$$v1_quaterni k4_quaterni \quad (10)$$

Assume the following.

$$v1_quaterni k1_xcmplx_0 \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k1_numbers) \wedge (v1_quaterni X1)) \Rightarrow (v1_quaterni (k25_quaterni X0 X1)) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k1_numbers) \wedge (v1_quaterni X1)) \Rightarrow (v1_quaterni (k23_quaterni X0 X1)) \quad (13)$$

Assume the following.

$$\forall X0.(v1_quaterni X0) \Rightarrow (v1_quaterni (k8_quaterni X0)) \quad (14)$$

Assume the following.

$$\forall X0.(v1_quaterni X0) \Rightarrow (m1_subset_1 (k20_quaterni X0) k1_numbers) \quad (15)$$

Assume the following.

$$\forall X0.(v1_quaterni X0) \Rightarrow (m1_subset_1 (k19_quaterni X0) k1_numbers) \quad (16)$$

Assume the following.

$$\forall X0.(v1_quaterni X0) \Rightarrow (m1_subset_1 (k18_quaterni X0) k1_numbers) \quad (17)$$

Assume the following.

$$\forall X0.(v1_quaterni X0) \Rightarrow (m1_subset_1 (k17_quaterni X0) k1_numbers) \quad (18)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_quaterni X0) \Rightarrow & (k30_quaterni X0 = k26_quaterni (\\ & k26_quaterni (k23_quaterni (k17_quaterni X0) (k25_quaterni (\\ k1_real_1 (k18_quaterni X0)) k1_xcmplx_0)) (k25_quaterni (k1_real_1 \\ & (k19_quaterni X0)) k11_quaterni)) (k25_quaterni (k1_real_1 (\\ & k20_quaterni X0)) k12_quaterni)) \end{aligned} \quad (19)$$

Theorem 1

$$\begin{aligned} \forall X0.(v1_quaterni X0) \Rightarrow & (k31_quaterni X0 = k6_quaterni (k17_quaterni \\ & X0) (k1_real_1 (k18_quaterni X0)) (k1_real_1 (k19_quaterni X0)) \\ & (k1_real_1 (k20_quaterni X0))) \end{aligned}$$