

t42_quaterni (TM-
PafgXAo8UpFEZRB9YtJGLGeMotCbgsFL7)

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Let $v1_quaterni : \iota \Rightarrow o$ be given. Let $k17_quaterni : \iota \Rightarrow \iota$ be given. Let $k29_quaterni : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $k26_quaterni : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $k6_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k9_quaterni : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_quaterni : \iota \Rightarrow \iota$ be given. Let $k7_quaterni : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_quaterni : \iota \Rightarrow \iota$ be given. Let $k15_quaterni : \iota \Rightarrow \iota$ be given. Let $k14_quaterni : \iota \Rightarrow \iota$ be given. Let $k13_quaterni : \iota \Rightarrow \iota$ 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.

$$\begin{aligned} \forall X0.(v1_quaterni X0) \Rightarrow (\forall X1.(v1_quaterni X1) \Rightarrow ((\\ k17_quaterni (k26_quaterni X0 X1) = k7_real_1 (k17_quaterni X0) \\ (k17_quaterni X1)) \wedge ((k18_quaterni (k26_quaterni X0 X1) = k7_real_1 \\ (k18_quaterni X0) (k18_quaterni X1)) \wedge ((k19_quaterni (k26_quaterni \\ X0 X1) = k7_real_1 (k19_quaterni X0) (k19_quaterni X1)) \wedge (k20_quaterni \\ (k26_quaterni X0 X1) = k7_real_1 (k20_quaterni X0) (k20_quaterni \\ X1)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0) \wedge (v1_xcmplx_0 X1)) \Rightarrow (\\ k2_xcmplx_0 X0 (k4_xcmplx_0 X1) = k6_xcmplx_0 X0 X1) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k1_numbers)\wedge(v1_xreal_0 X1))\Rightarrow(k9_real_1 X0 X1 = k6_xcmplx_0 X0 X1) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k1_numbers)\wedge(v1_xreal_0 X1))\Rightarrow(k7_real_1 X0 X1 = k2_xcmplx_0 X0 X1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1_quaterni X0)\wedge(v1_quaterni X1))\Rightarrow(k29_quaterni X0 X1 = k9_quaterni X0 X1) \quad (6)$$

Assume the following.

$$\forall X0.(v1_quaterni X0)\Rightarrow(k28_quaterni X0 = k8_quaterni X0) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1_quaterni X0)\wedge(v1_quaterni X1))\Rightarrow(k26_quaterni X0 X1 = k7_quaterni X0 X1) \quad (8)$$

Assume the following.

$$\forall X0.(v1_quaterni X0)\Rightarrow(k20_quaterni X0 = k16_quaterni X0) \quad (9)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(k1_real_1 X0 = k4_xcmplx_0 X0) \quad (10)$$

Assume the following.

$$\forall X0.(v1_quaterni X0)\Rightarrow(k19_quaterni X0 = k15_quaterni X0) \quad (11)$$

Assume the following.

$$\forall X0.(v1_quaterni X0)\Rightarrow(k18_quaterni X0 = k14_quaterni X0) \quad (12)$$

Assume the following.

$$\forall X0.(v1_quaterni X0)\Rightarrow(k17_quaterni X0 = k13_quaterni X0) \quad (13)$$

Assume the following.

$$\forall X0.(v1_quaterni X0)\Rightarrow(v1_xreal_0 (k14_quaterni X0)) \quad (14)$$

Assume the following.

$$\forall X0.(v1_quaterni X0)\Rightarrow(v1_xreal_0 (k13_quaterni X0)) \quad (15)$$

Assume the following.

$$\forall X0.(v1_quaterni\ X0)\Rightarrow(v1_xreal_0\ (k16_quaterni\ X0)) \quad (16)$$

Assume the following.

$$\forall X0.(v1_quaterni\ X0)\Rightarrow(v1_xreal_0\ (k15_quaterni\ X0)) \quad (17)$$

Assume the following.

$$\forall X0.(v1_quaterni\ X0)\Rightarrow(v1_quaterni\ (k8_quaterni\ X0)) \quad (18)$$

Assume the following.

$$\forall X0.(v1_quaterni\ X0)\Rightarrow(m1_subset_1\ (k20_quaterni\ X0)\ k1_numbers) \quad (19)$$

Assume the following.

$$\forall X0.(v1_quaterni\ X0)\Rightarrow(m1_subset_1\ (k19_quaterni\ X0)\ k1_numbers) \quad (20)$$

Assume the following.

$$\forall X0.(v1_quaterni\ X0)\Rightarrow(m1_subset_1\ (k18_quaterni\ X0)\ k1_numbers) \quad (21)$$

Assume the following.

$$\forall X0.(v1_quaterni\ X0)\Rightarrow(m1_subset_1\ (k17_quaterni\ X0)\ k1_numbers) \quad (22)$$

Assume the following.

$$\forall X0.(v1_quaterni\ X0)\Rightarrow(\forall X1.(v1_quaterni\ X1)\Rightarrow(k9_quaterni\ X0\ X1 = k7_quaterni\ X0\ (k8_quaterni\ X1))) \quad (23)$$

Assume the following.

$$\forall X0.(v1_xreal_0\ X0)\Rightarrow(v1_xcmplx_0\ X0) \quad (24)$$

Theorem 1

$$\forall X0.(v1_quaterni\ X0)\Rightarrow(\forall X1.(v1_quaterni\ X1)\Rightarrow((k17_quaterni\ (k29_quaterni\ X0\ X1) = k9_real_1\ (k17_quaterni\ X0)\ (k17_quaterni\ X1))\wedge((k18_quaterni\ (k29_quaterni\ X0\ X1) = k9_real_1\ (k18_quaterni\ X0)\ (k18_quaterni\ X1))\wedge((k19_quaterni\ (k29_quaterni\ X0\ X1) = k9_real_1\ (k19_quaterni\ X0)\ (k19_quaterni\ X1))\wedge(k20_quaterni\ (k29_quaterni\ X0\ X1) = k9_real_1\ (k20_quaterni\ X0)\ (k20_quaterni\ X1))))))$$