

t12_quaterni (TMYMrsgAMLDHVs- TiCEgTA8QoLKeiQ8kyNk3)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k6_quaterni : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $r2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_quaterni : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_quaterni : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $np_1 : \iota$ be given. Let $np_2 : \iota$ be given. Let $np_3 : \iota$ be given. Let $k2_numbers : \iota$ be given. Let $k5_arytm_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k1_quaterni : \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & \forall X6. \forall X7. \forall X8. \forall X9. \forall X10. \forall X11. \\ & ((r2_zfmisc_1 X0 X1 X2 X3) \wedge (k2_quaterni X0 X1 X2 X3 X4 X5 X6 X7 = k2_quaterni \\ & X0 X1 X2 X3 X8 X9 X10 X11)) \Rightarrow ((X4 = X8) \wedge ((X5 = X9) \wedge ((X6 = X10) \wedge (X7 = X11)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. (m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1. (m1_subset_1 \\ & X1 k1_numbers) \Rightarrow (\forall X2. (m1_subset_1 X2 k1_numbers) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 k1_numbers) \Rightarrow (\neg k3_quaterni k1_numbers k6_numbers \\ & np_1 np_2 np_3 X0 X1 X2 X3 \in k2_numbers)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. (m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1. (m1_subset_1 \\ & X1 k1_numbers) \Rightarrow (\forall X2. (m1_subset_1 X2 k1_numbers) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 k1_numbers) \Rightarrow ((k5_arytm_0 X0 X1 = k5_arytm_0 X2 \\ & X3) \Rightarrow ((X0 = X2) \wedge (X1 = X3)))))) \end{aligned} \quad (4)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & \forall X6.\forall X7.\forall X8.((\neg v1_xboole_0 X0)\wedge((m1_subset_1 \\ & X5 X0)\wedge((m1_subset_1 X6 X0)\wedge((m1_subset_1 X7 X0)\wedge(m1_subset_1 \\ & X8 X0))))))\Rightarrow(k3_quaterni X0 X1 X2 X3 X4 X5 X6 X7 X8 = k2_quaterni X1 X2 \\ & X3 X4 X5 X6 X7 X8) \end{aligned} \quad (6)$$

Assume the following.

$$r2_zfmisc_1 k6_numbers np_1 np_2 np_3 \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(\forall X1.(m1_subset_1 \\ & X1 k1_numbers)\Rightarrow(k6_quaterni X0 X1 k6_numbers k6_numbers = k5_arytm_0 \\ & X0 X1)) \end{aligned} \quad (8)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1)\wedge(v3_ordinal1 k4_ordinal1) \quad (9)$$

Assume the following.

$$\neg v1_xboole_0 k2_numbers \quad (10)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 \\ & X2 X0 X1)\Rightarrow(m1_subset_1 X2 X0)) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1_xreal_0 X0)\wedge \\ & ((v1_xreal_0 X1)\wedge((v1_xreal_0 X2)\wedge(v1_xreal_0 X3))))\Rightarrow(m1_subset_1 \\ & (k6_quaterni X0 X1 X2 X3) k1_quaterni) \end{aligned} \quad (13)$$

Assume the following.

$$m2_subset_1 k6_numbers k1_numbers k5_numbers \quad (14)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k1_numbers)\wedge(m1_subset_1 X1 k1_numbers))\Rightarrow(m1_subset_1 (k5_arytm_0 X0 X1) k2_numbers) \quad (16)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xreal_0 X0)\Leftrightarrow(\forall X1.(v1_xreal_0 X1)\Leftrightarrow(\forall X2. \\ (v1_xreal_0 X2)\Leftrightarrow(\forall X3.(v1_xreal_0 X3)\Leftrightarrow(\forall X4.(m1_subset_1 \\ X4 k1_quaterni)\Rightarrow(((X2 = k6_numbers)\wedge(X3 = k6_numbers))\Rightarrow((X4 = \\ k6_quaterni X0 X1 X2 X3)\Leftrightarrow(\exists X5.(m1_subset_1 X5 k1_numbers)\wedge \\ (\exists X6.(m1_subset_1 X6 k1_numbers)\wedge((X5 = X0)\wedge((X6 = X1)\wedge \\ (X4 = k5_arytm_0 X5 X6))))))\wedge((\neg(X2 = k6_numbers)\wedge(X3 = k6_numbers))\Rightarrow \\ ((X4 = k6_quaterni X0 X1 X2 X3)\Leftrightarrow(X4 = k2_quaterni k6_numbers np_1 \\ np_2 np_3 X0 X1 X2 X3)))))) \end{aligned} \quad (17)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(v1_xreal_0 X0) \quad (18)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(v1_xboole_0 X1)) \quad (19)$$

Theorem 1

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(\forall X1.(m1_subset_1 \\ X1 k1_numbers)\Rightarrow(\forall X2.(m1_subset_1 X2 k1_numbers)\Rightarrow(\forall X3. \\ (m1_subset_1 X3 k1_numbers)\Rightarrow(\forall X4.(m1_subset_1 X4 k1_numbers)\Rightarrow \\ (\forall X5.(m1_subset_1 X5 k1_numbers)\Rightarrow(\forall X6.(m1_subset_1 \\ X6 k1_numbers)\Rightarrow(\forall X7.(m1_subset_1 X7 k1_numbers)\Rightarrow((k6_quaterni \\ X0 X1 X2 X3 = k6_quaterni X4 X5 X6 X7)\Rightarrow((X0 = X4)\wedge((X1 = X5)\wedge((X2 = X6)\wedge \\ (X3 = X7)))))))))) \end{aligned}$$