

t3_quaterni (TMcSP- WSQm5wfdwEppSG8oYeHRmemuiwwUpP)

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Let $r2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_quaterni : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k1_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((X0 \neq X1) \Rightarrow (k1_funct_1 \\ & (k4_funct_4 X0 X1 X2 X3) X0 = X2)) \wedge (k1_funct_1 (k4_funct_4 X0 X1 X2 \\ & X3) X1 = X3) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (k9_xtuple_0 (k4_funct_4 \\ & X0 X1 X2 X3) = k2_tarski X0 X1) \wedge (r1_tarski (k10_xtuple_0 (k4_funct_4 \\ & X0 X1 X2 X3)) (k2_tarski X2 X3)) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2. \\ & ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((X0 \in k9_xtuple_0 X1) \Rightarrow (k1_funct_1 \\ & (k1_funct_4 X2 X1) X0 = k1_funct_1 X1 X0))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2. \\ & ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((\neg X0 \in k9_xtuple_0 X1) \Rightarrow (k1_funct_1 \\ & (k1_funct_4 X2 X1) X0 = k1_funct_1 X2 X0))) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (v1_relat_1 (k4_funct_4 \\ & X0 X1 X2 X3)) \wedge (v1_funct_1 (k4_funct_4 X0 X1 X2 X3)) \end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(r2_zfmisc_1\ X0\ X1 \\ & X2\ X3)\Leftrightarrow((X0\neq X1)\wedge((X0\neq X2)\wedge((X0\neq X3)\wedge((X1\neq X2)\wedge((X1\neq X3)\wedge(X2\neq \\ & X3)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & \forall X6.\forall X7.k2_quaterni\ X0\ X1\ X2\ X3\ X4\ X5\ X6\ X7 = k1_funct_4\ (k4_funct_4\ X0\ X1\ X4\ X5)\ (k4_funct_4\ X2\ X3\ X6\ X7) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(X2 = k2_tarski\ X0\ X1)\Leftrightarrow(\forall X3. \\ & (X3 \in X2)\Leftrightarrow((X3 = X0)\vee(X3 = X1))) \end{aligned} \quad (8)$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & \forall X6.\forall X7.(r2_zfmisc_1\ X0\ X1\ X2\ X3)\Rightarrow((k1_funct_1\ (\\ & k2_quaterni\ X0\ X1\ X2\ X3\ X4\ X5\ X6\ X7)\ X0 = X4)\wedge((k1_funct_1\ (k2_quaterni \\ & X0\ X1\ X2\ X3\ X4\ X5\ X6\ X7)\ X1 = X5)\wedge((k1_funct_1\ (k2_quaterni\ X0\ X1\ X2\ X3 \\ & X4\ X5\ X6\ X7)\ X2 = X6)\wedge(k1_funct_1\ (k2_quaterni\ X0\ X1\ X2\ X3\ X4\ X5\ X6\ X7) \\ & X3 = X7)))) \end{aligned}$$