

t145_finseq_3
(TMW6hdkI7thSsj4sPYXJPxF8hz8vefvsvxdv)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13_funct_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_funct_6 : \iota \Rightarrow \iota$ be given. Let $k10_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $np_1 : \iota$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2. \\ & ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((X0 \in k3_xboole_0 (k9_xtuple_0 \\ & X1) (k9_xtuple_0 X2)) \Rightarrow (k1_funct_1 (k13_funct_3 X1 X2) X0 = k4_tarski \\ & (k1_funct_1 X1 X0) (k1_funct_1 X2 X0)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1_relat_1 X2) \wedge ((v1_funct_1 \\ & X2) \wedge (v1_finseq_1 X2))) \Rightarrow ((X2 = k10_finseq_1 X0 X1) \Leftrightarrow ((k3_finseq_1 \\ & X2 = np_2) \wedge ((k1_funct_1 X2 np_1 = X0) \wedge (k1_funct_1 X2 np_2 = X1)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (k4_tarski X0 X1 = \\ & k4_tarski X2 X3) \Rightarrow ((X0 = X2) \wedge (X1 = X3)) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. ((\\ & v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((k9_xtuple_0 (k6_funct_6 (\\ & k10_finseq_1 X0 X1)) = k3_xboole_0 (k9_xtuple_0 X0) (k9_xtuple_0 \\ & X1)) \wedge (\forall X2. (X2 \in k3_xboole_0 (k9_xtuple_0 X0) (k9_xtuple_0 \\ & X1)) \Rightarrow (k1_funct_1 (k6_funct_6 (k10_finseq_1 X0 X1) X2 = k10_finseq_1 \\ & (k1_funct_1 X0 X2) (k1_funct_1 X1 X2)))))) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(v1_relat_1 (k10_finseq_1 X0 X1))\wedge(v1_funct_1 (k10_finseq_1 X0 X1)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.v1_finseq_1 (k10_finseq_1 X0 X1) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.k4_tarski X0 X1 = k2_tarski (k2_tarski X0 X1) (k1_tarski X0) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k3_xboole_0 X0 X1)\Leftrightarrow(\forall X3.(X3 \in X2)\Leftrightarrow((X3 \in X0)\wedge(X3 \in X1))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.k2_tarski X0 X1 = k2_tarski X1 X0 \quad (10)$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.((v1_relat_1 X1)\wedge(v1_funct_1 X1))\Rightarrow(\forall X2. \\ & ((v1_relat_1 X2)\wedge(v1_funct_1 X2))\Rightarrow(((X0 \in k9_xtuple_0 X1)\wedge(X0 \in \\ & k9_xtuple_0 X2))\Rightarrow(\forall X3.\forall X4.(k1_funct_1 (k13_funct_3 \\ & X1 X2) X0 = k4_tarski X3 X4)\Leftrightarrow(k1_funct_1 (k6_funct_6 (k10_finseq_1 \\ & X1 X2)) X0 = k10_finseq_1 X3 X4)))) \end{aligned}$$