

t10_necklace
(TMGJy8WFjooofCV6WB1znxu9cLMBqNghqhDJ)

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Let $k2_funct_1 : \iota \Rightarrow \iota$ be given. Let $k4_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v2_funct_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. k2_funct_1 (k16_funcop_1 X0 X1) = k16_funcop_1 X1 X0 \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. k4_funct_4 X0 X0 X1 X2 = k16_funcop_1 X0 X2 \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. (X0 \neq X1) \Rightarrow (k10_xtuple_0 (k4_funct_4 X0 X1 X2 X3) = k2_tarski X2 X3) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((X0 \neq X1) \Rightarrow (k1_funct_1 (k4_funct_4 X0 X1 X2 X3) X0 = X2)) \wedge (k1_funct_1 (k4_funct_4 X0 X1 X2 X3) X1 = X3) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. (k9_xtuple_0 (k4_funct_4 X0 X1 X2 X3) = k2_tarski X0 X1) \wedge (r1_tarski (k10_xtuple_0 (k4_funct_4 X0 X1 X2 X3)) (k2_tarski X2 X3)) \quad (5)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v2_funct_1 X0) \Rightarrow \\
& (\forall X1.((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((X1 = k2_funct_1 \\
& X0) \Leftrightarrow ((k9_xtuple_0 X1 = k10_xtuple_0 X0) \wedge (\forall X2. \forall X3. \\
& (((X2 \in k10_xtuple_0 X0) \wedge (X3 = k1_funct_1 X1 X2)) \Rightarrow ((X3 \in k9_xtuple_0 \\
& X0) \wedge (X2 = k1_funct_1 X0 X3)))) \wedge (((X3 \in k9_xtuple_0 X0) \wedge (X2 = k1_funct_1 \\
& X0 X3)) \Rightarrow ((X2 \in k10_xtuple_0 X0) \wedge (X3 = k1_funct_1 X1 X2))))))))) \\
& \tag{6}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. (v1_relat_1 (k4_funct_4 \\
& X0 X1 X2 X3)) \wedge (v1_funct_1 (k4_funct_4 X0 X1 X2 X3)) \\
& \tag{7}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v2_funct_1 X0) \Leftrightarrow \\
& (\forall X1. \forall X2. ((X1 \in k9_xtuple_0 X0) \wedge ((X2 \in k9_xtuple_0 \\
& X0) \wedge (k1_funct_1 X0 X1 = k1_funct_1 X0 X2))) \Rightarrow (X1 = X2))) \\
& \tag{8}
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (X2 = k2_tarSKI X0 X1) \Leftrightarrow (\forall X3. \\
& (X3 \in X2) \Leftrightarrow ((X3 = X0) \vee (X3 = X1))) \\
& \tag{9}
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. \neg((X0 = X1) \Rightarrow (X2 = X3)) \wedge \\
& (((X2 = X3) \Rightarrow (X0 = X1)) \wedge (k2_funct_1 (k4_funct_4 X0 X1 X2 X3) \neq k4_funct_4 \\
& X2 X3 X0 X1))
\end{aligned}$$