

t18_hilbert3

(TMa8h6z5RGLMThsMJ55tR8Q17dGKV7gZrNz)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k15_pralg_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_funcop_1 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \neg(X0 \in X1) \wedge (r1_tarski\ X1\ X0) \quad (1)$$

Assume the following.

$$\forall X0. (v1_relat_1\ X0) \Rightarrow (((k9_xtuple_0\ X0 = k1_xboole_0) \vee (k10_xtuple_0\ X0 = k1_xboole_0)) \Rightarrow (X0 = k1_xboole_0)) \quad (2)$$

Assume the following.

$$(k9_xtuple_0\ k1_xboole_0 = k1_xboole_0) \wedge (k10_xtuple_0\ k1_xboole_0 = k1_xboole_0) \quad (3)$$

Assume the following.

$$\forall X0. r1_tarski\ k1_xboole_0\ X0 \quad (4)$$

Assume the following.

$$\forall X0. ((v1_relat_1\ X0) \wedge (v1_funct_1\ X0)) \Rightarrow (\forall X1. (r1_tarski\ X1\ X0) \Rightarrow ((v1_relat_1\ X1) \wedge (v1_funct_1\ X1))) \quad (5)$$

Assume the following.

$$v1_xboole_0\ k1_xboole_0 \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1\ X0) \wedge ((v1_funct_1\ X0) \wedge (v1_funcop_1\ X0))) \Rightarrow \\ & (\forall X1. ((v1_relat_1\ X1) \wedge (v1_funct_1\ X1)) \Rightarrow (\forall X2. (\\ & (v1_relat_1\ X2) \wedge (v1_funct_1\ X2)) \Rightarrow ((X2 = k15_pralg_1\ X0\ X1) \Leftrightarrow (\\ & k9_xtuple_0\ X2 = k9_xtuple_0\ X0) \wedge (\forall X3. (X3 \in k9_xtuple_0 \\ & X0) \Rightarrow (k1_funct_1\ X2\ X3 = k1_funct_1\ (k1_funct_1\ X0\ X3)\ (k1_funct_1 \\ & X1\ X3)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_xboole_0 X0))) \Rightarrow \quad (8) \\ ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_funcop_1 X0)))$$

Theorem 1

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (k15_pralg_1 k1_xboole_0 \\ X0 = k1_xboole_0)$$