

t9_cat_1

(TMbfKRAxo5qQvEopBZ2GEGkeCfUFG8XLxHz)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v11_struct_0 : \iota \Rightarrow o$ be given. Let $l1_cat_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_cat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_cat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. 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 $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $r2_wellord2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ be given. Let $v2_funct_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((k9_xtuple_0 X1 = k1_tarski X0) \Rightarrow (k10_xtuple_0 X1 = k1_tarski (k1_funct_1 X1 X0))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (r2_wellord2 X0 X1) \Leftrightarrow (r2_tarski X0 X1) \quad (4)$$

Assume the following.

$$\forall X0. \neg v1_xboole_0 (k1_tarski X0) \quad (5)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (6)$$

Assume the following.

$$\forall X0. \exists X1. m1_subset_1 X1 X0 \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge(\neg v11_struct_0 \\ & X0)\wedge(l1_cat_1 X0)))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 \\ & X2 (u1_struct_0 X0)))\Rightarrow(m1_subset_1 (k2_cat_1 X0 X1 X2) (k1_zfmisc_1 \\ & (u4_struct_0 X0))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge(\neg v11_struct_0 X0)\wedge(l1_cat_1 \\ & X0))\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0))\Rightarrow((k2_cat_1 X0 X1 X2\neq k1_xboole_0)\Rightarrow \\ & (\forall X3.(m1_subset_1 X3 (u4_struct_0 X0))\Rightarrow((m1_cat_1 X3 X0 \\ & X1 X2)\Leftrightarrow(X3 \in k2_cat_1 X0 X1 X2)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(r2_wellord2 X0 X1)\Leftrightarrow(\exists X2.((v1_relat_1 \\ & X2)\wedge(v1_funct_1 X2))\wedge((v2_funct_1 X2)\wedge((k9_xtuple_0 X2 = X0)\wedge \\ & (k10_xtuple_0 X2 = X1)))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(X1 = k1_tarski X0)\Leftrightarrow(\forall X2.(X2 \in X1)\Leftrightarrow \\ & (X2 = X0)) \end{aligned} \quad (11)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge(\neg v11_struct_0 X0)\wedge(l1_cat_1 \\ & X0))\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0))\Rightarrow(\forall X3.(m1_subset_1 X3 \\ & (u1_struct_0 X0))\Rightarrow(\forall X4.(m1_subset_1 X4 (u1_struct_0 X0))\Rightarrow \\ & (\forall X5.(m1_cat_1 X5 X0 X1 X2)\Rightarrow(\neg(r2_tarski (k2_cat_1 X0 X1 \\ & X2) (k2_cat_1 X0 X3 X4))\wedge((k2_cat_1 X0 X1 X2 = k1_tarski X5)\wedge(\forall X6. \\ & (m1_cat_1 X6 X0 X3 X4)\Rightarrow(k2_cat_1 X0 X3 X4\neq k1_tarski X6)))))))))) \end{aligned}$$