

t69_cohsp_1 (TMSZf-
BHKzUwEdAGe9PYimL7BxMff4w243aB)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_classes1 : \iota \Rightarrow o$ be given. Let $v1_coh_sp : \iota \Rightarrow o$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_coh_sp : \iota \Rightarrow \iota$ be given. Let $k13_cohsp_1 : \iota \Rightarrow \iota$ be given. Let $k3_tarski : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_relat_2 : \iota \Rightarrow o$ be given. Let $v3_relat_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k8_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.((\neg v1_xboole_0 X0) \wedge ((v1_classes1 X0) \wedge (v1_coh_sp \\ X0))) \Rightarrow (\forall X1. \forall X2. (r1_tarski (k2_tarski X1 X2) (k3_tarski \\ X0)) \Rightarrow ((k2_tarski X1 X2 \in X0) \vee (k2_tarski X1 X2 \in k13_cohsp_1 X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v1_xboole_0 X0) \wedge ((v1_classes1 X0) \wedge (v1_coh_sp \\ X0))) \Rightarrow (\forall X1. \forall X2. \neg (X1 \neq X2) \wedge ((k2_tarski X1 X2 \in X0) \wedge \\ (k2_tarski X1 X2 \in k13_cohsp_1 X0))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v1_xboole_0 X0) \wedge ((v1_classes1 X0) \wedge (v1_coh_sp \\ X0))) \Rightarrow (k3_tarski (k13_cohsp_1 X0) = k3_tarski X0) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v1_xboole_0 X0) \wedge ((v1_classes1 X0) \wedge (v1_coh_sp \\ X0))) \Rightarrow (\forall X1. ((v1_partfun1 X1 (k3_tarski X0)) \wedge ((v1_relat_2 \\ X1) \wedge ((v3_relat_2 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ (k3_tarski X0) (k3_tarski X0))))))) \Rightarrow ((r2_relset_1 (k3_tarski \\ X0) (k3_tarski X0) X1 (k1_coh_sp X0)) \Leftrightarrow (\forall X2. \forall X3. (\\ k4_tarski X2 X3 \in X1) \Leftrightarrow (k2_tarski X2 X3 \in X0)))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X1)\wedge((v1_classes1 X1)\wedge (v1_coh_sp X1)))\Rightarrow((X0 \in k3_tarski X1)\Rightarrow(k1_tarski X0 \in X1)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 (k1_zfmisc_1 X1))\Leftrightarrow(r1_tarski X0 X1) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(r1_tarski (k2_tarski X0 X1) X2)\Leftrightarrow((X0 \in X2)\wedge(X1 \in X2)) \quad (7)$$

Assume the following.

$$\forall X0.k2_tarski X0 X0 = k1_tarski X0 \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow(r2_relset_1 X0 X1 X2 X2) \quad (9)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0)\wedge((v1_classes1 X0)\wedge(v1_coh_sp X0)))\Rightarrow((\neg v1_xboole_0 (k13_cohsp_1 X0))\wedge((v1_classes1 (k13_cohsp_1 X0))\wedge(v1_coh_sp (k13_cohsp_1 X0)))) \quad (10)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0)\wedge((v1_classes1 X0)\wedge(v1_coh_sp X0)))\Rightarrow((v1_partfun1 (k1_coh_sp X0) (k3_tarski X0))\wedge((v1_relat_2 (k1_coh_sp X0))\wedge((v3_relat_2 (k1_coh_sp X0))\wedge(m1_subset_1 (k1_coh_sp X0) (k1_zfmisc_1 (k2_zfmisc_1 (k3_tarski X0) (k3_tarski X0))))))) \quad (11)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0)\wedge((v1_classes1 X0)\wedge(v1_coh_sp X0)))\Rightarrow(k13_cohsp_1 X0 = ReplSep (toset (\lambda X1 : \iota.m1_subset_1 X1 (k1_zfmisc_1 (k3_tarski X0)))) (\lambda X1 : \iota.\forall X2.(m1_subset_1 X2 X0)\Rightarrow(\exists X3.r1_tarski (k8_subset_1 (k3_tarski X0) X1 X2) (k1_tarski X3)))) (\lambda X1 : \iota.X1)) \quad (12)$$

Theorem 1

$$\forall X0.((\neg v1_xboole_0 X0)\wedge((v1_classes1 X0)\wedge(v1_coh_sp X0)))\Rightarrow(\forall X1.\forall X2.(k4_tarski X1 X2 \in k1_coh_sp (k13_cohsp_1 X0))\Leftrightarrow((X1 \in k3_tarski X0)\wedge((X2 \in k3_tarski X0)\wedge(\neg(X1 \neq X2)\wedge(k4_tarski X1 X2 \in k1_coh_sp X0))))))$$