

t91_cohsp_1 (TMZvNCskJte8PDk4c51CRczkvQ31VvCbxdZ)

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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 $k3_tarski : \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $np_2 : \iota$ be given. Let $k1_coh_sp : \iota \Rightarrow \iota$ be given. Let $k15_cohsp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k14_cohsp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ 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 $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. k14_cohsp_1 X0 X1 = k2_xboole_0 (k2_zfmisc_1 X0 (k1_tarski np_1)) (k2_zfmisc_1 X1 (k1_tarski np_2)) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v1_xboole_0 X0) \wedge ((v1_classes1 X0) \wedge (v1_coh_sp X0))) \Rightarrow (\forall X1. ((v1_partfun1 X1 (k3_tarski X0)) \wedge ((v1_relat_2 X1) \wedge ((v3_relat_2 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k3_tarski X0) (k3_tarski X0)))))) \Rightarrow ((r2_relset_1 (k3_tarski X0) (k3_tarski X0) X1 (k1_coh_sp X0)) \Leftrightarrow (\forall X2. \forall X3. (k4_tarski X2 X3 \in X1) \Leftrightarrow (k2_tarski X2 X3 \in X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1_xboole_0 X1) \wedge ((v1_classes1 X1) \wedge (v1_coh_sp X1))) \Rightarrow ((X0 \in k3_tarski X1) \Rightarrow (k1_tarski X0 \in X1)) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. k2_zfmisc_1 (k1_tarski X0) (k1_tarski X1) = k1_tarski (k4_tarski X0 X1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.k2_tarSKI X0 X1 = k2_xboole_0 (k1_tarSKI X0) (k1_tarSKI X1) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((m1_subset_1 X2 \\ & (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))) \Rightarrow ((r2_relset_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v1_xboole_0 X0) \wedge ((v1_classes1 X0) \wedge \\ & (v1_coh_sp X0))) \wedge ((\neg v1_xboole_0 X1) \wedge ((v1_classes1 X1) \wedge (v1_coh_sp \\ & X1)))) \Rightarrow ((\neg v1_xboole_0 (k15_cohsp_1 X0 X1)) \wedge ((v1_classes1 (k15_cohsp_1 \\ & X0 X1)) \wedge (v1_coh_sp (k15_cohsp_1 X0 X1)))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge ((v1_classes1 X0) \wedge (v1_coh_sp \\ & X0))) \Rightarrow ((v1_partfun1 (k1_coh_sp X0) (k3_tarSKI X0)) \wedge ((v1_relat_2 \\ & (k1_coh_sp X0)) \wedge ((v3_relat_2 (k1_coh_sp X0)) \wedge (m1_subset_1 (\\ & k1_coh_sp X0) (k1_zfmisc_1 (k2_zfmisc_1 (k3_tarSKI X0) (k3_tarSKI \\ & X0)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge ((v1_classes1 X0) \wedge (v1_coh_sp \\ & X0))) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge ((v1_classes1 X1) \wedge (v1_coh_sp \\ & X1)))) \Rightarrow (k15_cohsp_1 X0 X1 = ReplSep2 (toSet (\lambda X2 : \iota.m1_subset_1 \\ & X2 X0)) (\lambda X2 : \iota.toSet (\lambda X3 : \iota.m1_subset_1 X3 X1)) (\lambda X2 : \\ & \iota.\lambda X3 : \iota.True) (\lambda X2 : \iota.\lambda X3 : \iota.k14_cohsp_1 X2 \\ & X3))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.k2_tarSKI X0 X1 = k2_tarSKI X1 X0 \quad (12)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge ((v1_classes1 X0) \wedge (v1_coh_sp \\ & X0))) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge ((v1_classes1 X1) \wedge (v1_coh_sp \\ & X1)))) \Rightarrow (\forall X2.\forall X3.((X2 \in k3_tarSKI X0) \wedge (X3 \in k3_tarSKI \\ & X1)) \Rightarrow ((k4_tarSKI (k4_tarSKI X2 np_1) (k4_tarSKI X3 np_2) \in k1_coh_sp \\ & (k15_cohsp_1 X0 X1)) \wedge (k4_tarSKI (k4_tarSKI X3 np_2) (k4_tarSKI \\ & X2 np_1) \in k1_coh_sp (k15_cohsp_1 X0 X1)))) \end{aligned}$$