

t41_coh_sp (TMNyMVFWqdf- FzXzn1c7CG7xgf4oGWELPJyN)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k16_coh_sp : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k17_coh_sp : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k18_coh_sp : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k20_coh_sp : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k19_coh_sp : \iota \Rightarrow \iota$ be given. Let $k1_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k3_tarski : \iota \Rightarrow \iota$ be given. Let $k1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_coh_sp : \iota \Rightarrow \iota$ 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. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(X0 \in k19_coh_sp X1) \Leftrightarrow (\exists X2.(m1_subset_1 \\ & X2 (k16_coh_sp X1)) \wedge (\exists X3.(m1_subset_1 X3 (k16_coh_sp X1)) \wedge \\ & (((k17_coh_sp X1 X3 = k1_xboole_0) \Rightarrow (k17_coh_sp X1 X2 = k1_xboole_0)) \wedge \\ & ((v1_funct_1 X0) \wedge ((v1_funct_2 X0 (k17_coh_sp X1 X2) (k17_coh_sp \\ & X1 X3)) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 (k17_coh_sp \\ & X1 X2) (k17_coh_sp X1 X3)))))))))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k16_coh_sp X0)) \Rightarrow (k18_coh_sp X0 X1 = k1_xtuple_0 X1) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k16_coh_sp X0)) \Rightarrow (k17_coh_sp X0 X1 = k2_xtuple_0 X1) \tag{5}$$

Assume the following.

$$v1_xboole_0 \ k1_xboole_0 \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.k4_tarski \ X0 \ X1 = k2_tarski \ (k2_tarski \ X0 \ X1) \ (k1_tarski \ X0) \tag{7}$$

Assume the following.

$$k1_xboole_0 = the \ (\lambda X0 : \iota.v1_xboole_0 \ X0) \tag{8}$$

Assume the following.

$$\begin{aligned} \forall X0.k20_coh_sp \ X0 = & ReplSep3 \ (toset \ (\lambda X1 : \iota.m1_subset_1 \\ & X1 \ (k16_coh_sp \ X0))) \ (\lambda X1 : \iota.toset \ (\lambda X2 : \iota.m1_subset_1 \\ & X2 \ (k16_coh_sp \ X0))) \ (\lambda X1 : \iota.\lambda X2 : \iota.toset \ (\lambda X3 : \iota. \\ & m1_subset_1 \ X3 \ (k19_coh_sp \ X0))) \ (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \\ \iota.((k17_coh_sp \ X0 \ X2 = & k1_xboole_0) \Rightarrow (k17_coh_sp \ X0 \ X1 = k1_xboole_0)) \wedge \\ & (((v1_funct_1 \ X3) \wedge ((v1_funct_2 \ X3 \ (k17_coh_sp \ X0 \ X1) \ (k17_coh_sp \\ & X0 \ X2)) \wedge (m1_subset_1 \ X3 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (k17_coh_sp \\ & X0 \ X1) \ (k17_coh_sp \ X0 \ X2)))))) \wedge (\forall X4.\forall X5.(k4_tarski \\ & X4 \ X5 \in k18_coh_sp \ X0 \ X1) \Rightarrow (k4_tarski \ (k1_funct_1 \ X3 \ X4) \ (k1_funct_1 \\ & X3 \ X5) \in k18_coh_sp \ X0 \ X2)))) \ (\lambda X1 : \iota.\lambda X2 : \iota.\lambda X3 : \iota. \\ & k4_tarski \ (k4_tarski \ X1 \ X2) \ X3) \end{aligned} \tag{9}$$

Assume the following.

$$\begin{aligned} \forall X0.k19_coh_sp \ X0 = & k3_tarski \ (ReplSep2 \ (toset \ (\lambda X1 : \\ & \iota.m1_subset_1 \ X1 \ (k16_coh_sp \ X0))) \ (\lambda X1 : \iota.toset \ (\lambda X2 : \\ & \iota.m1_subset_1 \ X2 \ (k16_coh_sp \ X0))) \ (\lambda X1 : \iota.\lambda X2 : \iota. \\ & True) \ (\lambda X1 : \iota.\lambda X2 : \iota.k1_funct_2 \ (k17_coh_sp \ X0 \ X1) \ (\\ & k17_coh_sp \ X0 \ X2))) \end{aligned} \tag{10}$$

Assume the following.

$$\begin{aligned} \forall X0.k16_coh_sp \ X0 = & ReplSep2 \ (toset \ (\lambda X1 : \iota.m1_subset_1 \\ & X1 \ (k15_coh_sp \ X0))) \ (\lambda X1 : \iota.toset \ (\lambda X2 : \iota.m1_subset_1 \\ & X2 \ (k1_zfmisc_1 \ X0))) \ (\lambda X1 : \iota.\lambda X2 : \iota.(v1_partfun1 \ X1 \\ & X2) \wedge ((v1_relat_2 \ X1) \wedge ((v3_relat_2 \ X1) \wedge (m1_subset_1 \ X1 \ (k1_zfmisc_1 \\ & (k2_zfmisc_1 \ X2 \ X2)))))) \ (\lambda X1 : \iota.\lambda X2 : \iota.k4_tarski \ X1 \\ & X2) \end{aligned} \tag{11}$$

Theorem 1

$$\begin{aligned} & \forall X0. \forall X1. (m1_subset_1 X1 (k16_coh_sp X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (k16_coh_sp X0)) \Rightarrow (\forall X3. ((v1_funct_1 X3) \wedge \\ & ((v1_funct_2 X3 (k17_coh_sp X0 X1) (k17_coh_sp X0 X2)) \wedge (m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 (k17_coh_sp X0 X1) (k17_coh_sp X0 \\ & X2)))))) \Rightarrow ((\forall X4. \forall X5. (k4_tarski X4 X5 \in k18_coh_sp \\ & X0 X1) \Rightarrow (k4_tarski (k1_funct_1 X3 X4) (k1_funct_1 X3 X5) \in k18_coh_sp \\ & X0 X2)) \Rightarrow (((k17_coh_sp X0 X2 = k1_xboole_0) \wedge (k17_coh_sp X0 X1 \neq k1_xboole_0)) \vee \\ & (k4_tarski (k4_tarski X1 X2) X3 \in k20_coh_sp X0)))))) \end{aligned}$$