

l50_topalg_1

(TMHRsn8tKk4gMtD8yQ7NWXRPyBAYzgm94U)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_borsuk_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k3_topalg_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_topalg_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_relat_2 : \iota \Rightarrow o$ be given. Let $v8_relat_2 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_borsuk_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_borsuk_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_eqrel_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\neg (r1_borsuk_6 X0 X1 X2) \wedge (\forall X3. \\ & ((v1_partfun1 X3 (k1_topalg_1 X0 X1 X2)) \wedge ((v3_relat_2 X3) \wedge ((v8_relat_2 \\ & X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k1_topalg_1 X0 \\ & X1 X2) (k1_topalg_1 X0 X1 X2))))))) \Rightarrow (\neg \forall X4. \forall X5. (k4_tarski \\ & X4 X5 \in X3) \Leftrightarrow ((X4 \in k1_topalg_1 X0 X1 X2) \wedge ((X5 \in k1_topalg_1 X0 X1 X2) \wedge \\ & (\exists X6. (m1_borsuk_2 X6 X0 X1 X2) \wedge (\exists X7. (m1_borsuk_2 \\ & X7 X0 X1 X2) \wedge ((X6 = X4) \wedge ((X7 = X5) \wedge (r3_borsuk_2 X0 X1 X2 X6 X7))))))))))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v3_relat_2 X2) \wedge ((v8_relat_2 \\ & X2) \wedge ((v1_partfun1 X2 X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X0)))))) \Rightarrow (\forall X3. (X3 \in X0) \Rightarrow ((k4_tarski X3 X1 \in X2) \Leftrightarrow (k6_eqrel_1 \\ & X0 X0 X2 X3 = k6_eqrel_1 X0 X0 X2 X1))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge(l1_pre_topc X0))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 X0))))\Rightarrow(\neg v1_xboole_0 (k1_topalg_1 X0 X1 X2))) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge((v2_pre_topc X0)\wedge(l1_pre_topc X0))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 X0))))\Rightarrow(m1_subset_1 (k3_topalg_1 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 (k1_topalg_1 X0 X1 X2) (k1_topalg_1 X0 X1 X2)))))) \quad (5)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge((v2_pre_topc X0)\wedge(l1_pre_topc X0)))\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2.(m1_subset_1 X2 (u1_struct_0 X0))\Rightarrow((r1_borsuk_6 X0 X1 X2)\Rightarrow(\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k1_topalg_1 X0 X1 X2) (k1_topalg_1 X0 X1 X2))))\Rightarrow((X3 = k3_topalg_1 X0 X1 X2)\Leftrightarrow(\forall X4.(m1_borsuk_2 X4 X0 X1 X2)\Rightarrow(\forall X5.(m1_borsuk_2 X5 X0 X1 X2)\Rightarrow((k4_tarski X4 X5 \in X3)\Leftrightarrow(r3_borsuk_2 X0 X1 X2 X4 X5)))))))))) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_pre_topc X0))\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2.(m1_subset_1 X2 (u1_struct_0 X0))\Rightarrow(\forall X3.(X3 = k1_topalg_1 X0 X1 X2)\Leftrightarrow(\forall X4.(X4 \in X3)\Leftrightarrow(m1_borsuk_2 X4 X0 X1 X2)))))) \quad (7)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0)\wedge((v2_pre_topc X0)\wedge(l1_pre_topc X0)))\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2.(m1_subset_1 X2 (u1_struct_0 X0))\Rightarrow((r1_borsuk_6 X0 X1 X2)\Rightarrow((\neg v1_xboole_0 (k3_topalg_1 X0 X1 X2))\wedge((v1_partfun1 (k3_topalg_1 X0 X1 X2) (k1_topalg_1 X0 X1 X2))\wedge((v3_relat_2 (k3_topalg_1 X0 X1 X2))\wedge(v8_relat_2 (k3_topalg_1 X0 X1 X2))))))))))$$