

t16_ringcat1

(TMbBbjHoLWVrfxu5272mF1rpVaZ5TgGTkdZ)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_classes2 : \iota \Rightarrow o$ be given. Let $r2_ringcat1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k18_mod_2 : \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $u1_algstr_0 : \iota \Rightarrow \iota$ be given. Let $k5_vectsp_1 : \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $u2_algstr_0 : \iota \Rightarrow \iota$ be given. Let $k5_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_xtuple_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_xtuple_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v33_algstr_0 : \iota \Rightarrow o$ be given. Let $v36_algstr_0 : \iota \Rightarrow o$ be given. Let $v3_group_1 : \iota \Rightarrow o$ be given. Let $v5_group_1 : \iota \Rightarrow o$ be given. Let $v4_vectsp_1 : \iota \Rightarrow o$ be given. Let $v5_vectsp_1 : \iota \Rightarrow o$ be given. Let $v12_vectsp_1 : \iota \Rightarrow o$ be given. Let $v2_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0. ((\neg v1_xboole_0 X0) \wedge (v1_classes2 X0)) \Rightarrow ((u1_struct_0 \\ k18_mod_2 \in X0) \wedge ((u1_algstr_0 k18_mod_2 \in X0) \wedge ((k5_vectsp_1 k18_mod_2 \in \\ X0) \wedge ((k4_struct_0 k18_mod_2 \in X0) \wedge ((u2_algstr_0 k18_mod_2 \in X0) \wedge \\ (k5_struct_0 k18_mod_2 \in X0)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v1_xboole_0 X0) \wedge (v1_classes2 X0)) \Rightarrow (\forall X1. \\ (m1_subset_1 X1 X0) \Rightarrow (\forall X2. (m1_subset_1 X2 X0) \Rightarrow (\forall X3. \\ (m1_subset_1 X3 X0) \Rightarrow (\forall X4. (m1_subset_1 X4 X0) \Rightarrow ((k3_xtuple_0 \\ X1 X2 X3 \in X0) \wedge (k6_xtuple_0 X1 X2 X3 X4 \in X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} (v13_algstr_0 k18_mod_2) \wedge ((v33_algstr_0 k18_mod_2) \wedge ((v36_algstr_0 \\ k18_mod_2) \wedge ((v3_group_1 k18_mod_2) \wedge ((v5_group_1 k18_mod_2) \wedge \\ ((v4_vectsp_1 k18_mod_2) \wedge ((v5_vectsp_1 k18_mod_2) \wedge ((v12_vectsp_1 \\ k18_mod_2) \wedge ((v2_rlvect_1 k18_mod_2) \wedge ((v3_rlvect_1 k18_mod_2) \wedge \\ (v4_rlvect_1 k18_mod_2)))))))))) \end{aligned} \quad (4)$$

Assume the following.

$$(\neg v2_struct_0\ k18_mod_2) \wedge (v36_algstr_0\ k18_mod_2) \quad (5)$$

Assume the following.

$$(v36_algstr_0\ k18_mod_2) \wedge (l6_algstr_0\ k18_mod_2) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. k6_xtuple_0\ X0\ X1 \\ & X2\ X3 = k4_tarski\ (k3_xtuple_0\ X0\ X1\ X2)\ X3 \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. k3_xtuple_0\ X0\ X1\ X2 = k4_tarski \\ & (k4_tarski\ X0\ X1)\ X2 \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (r2_ringcat1\ X0\ X1) \Leftrightarrow (\exists X2. \exists X3. \\ & \exists X4. \exists X5. \exists X6. \exists X7. (X0 = k3_xtuple_0 \\ & (k6_xtuple_0\ X2\ X3\ X4\ X5)\ X6\ X7) \wedge (\exists X8. ((\neg v2_struct_0\ X8) \wedge \\ & ((v13_algstr_0\ X8) \wedge ((v36_algstr_0\ X8) \wedge ((v2_rlvect_1\ X8) \wedge ((\\ & v3_rlvect_1\ X8) \wedge ((v4_rlvect_1\ X8) \wedge ((v3_group_1\ X8) \wedge ((v4_vectsp_1 \\ & X8) \wedge ((v5_vectsp_1\ X8) \wedge (l6_algstr_0\ X8)))))))))) \wedge ((X1 = X8) \wedge \\ & ((X2 = u1_struct_0\ X8) \wedge ((X3 = u1_algstr_0\ X8) \wedge ((X4 = k5_vectsp_1 \\ & X8) \wedge ((X5 = k4_struct_0\ X8) \wedge ((X6 = u2_algstr_0\ X8) \wedge (X7 = k5_struct_0 \\ & X8)))))))))) \end{aligned} \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v1_xboole_0\ X0) \wedge (v1_classes2\ X0)) \Rightarrow (\exists X1. \\ & (X1 \in X0) \wedge (r2_ringcat1\ X1\ k18_mod_2)) \end{aligned}$$