

t14_ringcat1
(TMQyGooGmiJpuDYbxrT9hJcrQ8vQs77popJ)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ 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 $v3_group_1 : \iota \Rightarrow o$ be given. Let $v4_vectsp_1 : \iota \Rightarrow o$ be given. Let $v5_vectsp_1 : \iota \Rightarrow o$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $m1_ringcat1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m4_ringcat1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge \\ & ((v13_algstr_0 X1) \wedge (v2_rlvect_1 X1) \wedge (v3_rlvect_1 X1) \wedge (v4_rlvect_1 \\ & X1) \wedge (v3_group_1 X1) \wedge (v4_vectsp_1 X1) \wedge (v5_vectsp_1 X1) \wedge (\\ & l6_algstr_0 X1)))))) \Rightarrow (\forall X2. ((\neg v2_struct_0 X2) \wedge (v13_algstr_0 \\ & X2) \wedge (v2_rlvect_1 X2) \wedge (v3_rlvect_1 X2) \wedge (v4_rlvect_1 X2) \wedge \\ & (v3_group_1 X2) \wedge (v4_vectsp_1 X2) \wedge (v5_vectsp_1 X2) \wedge (l6_algstr_0 \\ & X2)))))) \Rightarrow ((m4_ringcat1 X0 X1 X2) \Leftrightarrow (\forall X3. (m1_subset_1 \\ & X3 X0) \Rightarrow (m1_ringcat1 X3 X1 X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \neg v1_xboole_0 (k1_tarski X0) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. (X1 = k1_tarski X0) \Leftrightarrow (\forall X2. (X2 \in X1) \Leftrightarrow (X2 = X0)) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \Rightarrow ((m1_subset_1 X1 X0) \Leftrightarrow \\ & (X1 \in X0))) \wedge ((v1_xboole_0 X0) \Rightarrow ((m1_subset_1 X1 X0) \Leftrightarrow (v1_xboole_0 \\ & X1))) \end{aligned} \tag{4}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (v13_algstr_0 X0) \wedge (v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge \\ & (v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))) \Rightarrow \\ & (\forall X1.((\neg v2_struct_0 X1) \wedge (v13_algstr_0 X1) \wedge (v2_rlvect_1 \\ & X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v3_group_1 X1) \wedge \\ & (v4_vectsp_1 X1) \wedge ((v5_vectsp_1 X1) \wedge (l6_algstr_0 X1)))))) \Rightarrow \\ & (\forall X2.(m1_ringcat1 X2 X0 X1) \Rightarrow (m4_ringcat1 (k1_tarski X2) \\ & X0 X1))) \end{aligned}$$