

t3_modcat_1 (TMJNnokxe- Fqm1K3xw45T3A1hF3yUvM18eDH)

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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 $v8_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v9_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v10_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v11_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_mod_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_mod_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m5_modcat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge \\ & ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 \\ & X1) \wedge ((v3_group_1 X1) \wedge ((v4_vectsp_1 X1) \wedge ((v5_vectsp_1 X1) \wedge (\\ & l6_algstr_0 X1)))))))))) \Rightarrow (\forall X2. ((\neg v2_struct_0 X2) \wedge ((v13_algstr_0 \\ & X2) \wedge ((v2_rlvect_1 X2) \wedge ((v3_rlvect_1 X2) \wedge ((v4_rlvect_1 X2) \wedge \\ & ((v8_vectsp_1 X2 X1) \wedge ((v9_vectsp_1 X2 X1) \wedge ((v10_vectsp_1 X2 X1) \wedge \\ & ((v11_vectsp_1 X2 X1) \wedge (l1_vectsp_1 X2 X1)))))))))) \Rightarrow (\forall X3. \\ & ((\neg v2_struct_0 X3) \wedge ((v13_algstr_0 X3) \wedge ((v2_rlvect_1 X3) \wedge ((\\ & v3_rlvect_1 X3) \wedge ((v4_rlvect_1 X3) \wedge ((v8_vectsp_1 X3 X1) \wedge ((v9_vectsp_1 \\ & X3 X1) \wedge ((v10_vectsp_1 X3 X1) \wedge ((v11_vectsp_1 X3 X1) \wedge (l1_vectsp_1 \\ & X3 X1)))))))))) \Rightarrow ((m5_modcat_1 X0 X1 X2 X3) \Leftrightarrow (\forall X4. (m1_subset_1 \\ & X4 X0) \Rightarrow ((v2_mod_2 X4 X1) \wedge (m1_mod_2 X4 X1 X2 X3)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \neg v1_xboole_0 (k1_tarski X0) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k1_tarski X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (X2 = X0)) \quad (4)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge (\\ & (v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow \\ & (\forall X1.((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 \\ & X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v8_vectsp_1 X1 X0) \wedge \\ & ((v9_vectsp_1 X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge ((v11_vectsp_1 X1 \\ & X0) \wedge (l1_vectsp_1 X1 X0)))))))))) \Rightarrow (\forall X2.((\neg v2_struct_0 \\ & X2) \wedge ((v13_algstr_0 X2) \wedge ((v2_rlvect_1 X2) \wedge ((v3_rlvect_1 X2) \wedge \\ & ((v4_rlvect_1 X2) \wedge ((v8_vectsp_1 X2 X0) \wedge ((v9_vectsp_1 X2 X0) \wedge \\ & ((v10_vectsp_1 X2 X0) \wedge ((v11_vectsp_1 X2 X0) \wedge (l1_vectsp_1 X2 X0)))))))))) \Rightarrow \\ & (\forall X3.((v2_mod_2 X3 X0) \wedge (m1_mod_2 X3 X0 X1 X2)) \Rightarrow (m5_modcat_1 \\ & (k1_tarski X3) X0 X1 X2))) \end{aligned}$$