

t12_matroid0 (TMY-
fYZfz3KKMR3ocGS3ZtbNxfk6DN59JLW4)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v6_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v33_algstr_0 : \iota \Rightarrow o$ 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 $v5_group_1 : \iota \Rightarrow o$ be given. Let $v4_vectsp_1 : \iota \Rightarrow o$ be given. Let $v5_vectsp_1 : \iota \Rightarrow o$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ 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 $v1_finset_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_struct_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_vectsp_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (r1_tarski X0 X1) \Rightarrow (X1 = k2_xboole_0 X0 (k4_xboole_0 X1 X0)) \quad (1)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge (\\
& (v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 \\
& X0) \wedge ((v4_rlvect_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v8_vectsp_1 X1 X0) \wedge \\
& ((v9_vectsp_1 X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge ((v11_vectsp_1 X1 \\
& X0) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge \\
& (l1_vectsp_1 X1 X0)))))))))) \Rightarrow (\forall X2.((v1_finset_1 X2) \wedge \\
& (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X1)))) \Rightarrow (\forall X3. \\
& ((v1_finset_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 \\
& X1)))) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X1)) \Rightarrow (\neg (r1_struct_0 \\
& (k1_vectsp_7 X0 X1 (k4_subset_1 (u1_struct_0 X1) X2 X3)) X4) \wedge ((\\
& \neg r1_struct_0 (k1_vectsp_7 X0 X1 X3) X4) \wedge (\forall X5.(m1_subset_1 \\
& X5 (u1_struct_0 X1)) \Rightarrow (\neg (X5 \in X2) \wedge (r1_struct_0 (k1_vectsp_7 X0 \\
& X1 (k4_subset_1 (u1_struct_0 X1) (k7_subset_1 (u1_struct_0 X1) \\
& (k4_subset_1 (u1_struct_0 X1) X2 X3) (k6_domain_1 (u1_struct_0 \\
& X1) X5)) (k6_domain_1 (u1_struct_0 X1) X4)) X5))))))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (k7_subset_1 X0 X1 X2 = k4_xboole_0 X1 X2) \tag{3}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((m1_subset_1 X1 (k1_zfmisc_1 X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 X0))) \Rightarrow (k4_subset_1 X0 X1 X2 = k2_xboole_0 X1 X2) \tag{4}$$

Assume the following.

$$\forall X0. \forall X1. (v1_finset_1 X0) \Rightarrow (v1_finset_1 (k4_xboole_0 X0 X1)) \tag{5}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (m1_subset_1 (k7_subset_1 X0 X1 X2) (k1_zfmisc_1 X0)) \tag{6}$$

Assume the following.

$$\forall X0. \forall X1. k2_xboole_0 X0 X1 = k2_xboole_0 X1 X0 \tag{7}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ & X0) \wedge ((v33_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge \\ & ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 \\ & X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\ & ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((\\ & v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge ((v8_vectsp_1 X1 X0) \wedge ((v9_vectsp_1 \\ & X1 X0) \wedge ((v10_vectsp_1 X1 X0) \wedge ((v11_vectsp_1 X1 X0) \wedge (l1_vectsp_1 \\ & X1 X0)))))))))) \Rightarrow (\forall X2.((v1_finset_1 X2) \wedge (m1_subset_1 \\ & X2 (k1_zfmisc_1 (u1_struct_0 X1)))) \Rightarrow (\forall X3.((v1_finset_1 \\ & X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 X1)))) \Rightarrow ((r1_tarski \\ & X3 X2) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X1)) \Rightarrow (\neg (r1_struct_0 \\ & (k1_vectsp_7 X0 X1 X2) X4) \wedge ((\neg r1_struct_0 (k1_vectsp_7 X0 X1 X3) \\ & X4) \wedge (\forall X5.(m1_subset_1 X5 (u1_struct_0 X1)) \Rightarrow (\neg (X5 \in k7_subset_1 \\ & (u1_struct_0 X1) X2 X3) \wedge (r1_struct_0 (k1_vectsp_7 X0 X1 (k4_subset_1 \\ & (u1_struct_0 X1) (k7_subset_1 (u1_struct_0 X1) X2 (k6_domain_1 \\ & (u1_struct_0 X1) X5)) (k6_domain_1 (u1_struct_0 X1) X4)) X5)))))))))) \end{aligned}$$