

t35_matroid0
(TMJHC3rUbeE8dsN2ZCi9SBoJvMiownRkk81)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v3_pencil_1 : \iota \Rightarrow o$ be given. Let $v1_matroid0 : \iota \Rightarrow o$ be given. Let $v2_matroid0 : \iota \Rightarrow o$ be given. Let $v4_matroid0 : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k6_matroid0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_matroid0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v3_pencil_1 X0) \wedge ((v1_matroid0 \\ & X0) \wedge ((v2_matroid0 X0) \wedge ((v4_matroid0 X0) \wedge (l1_pre_topc X0)))))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow) \quad (1) \\ & (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((r2_matroid0 \\ & X0 X2 (k6_matroid0 X0 X1)) \Rightarrow (r2_matroid0 X0 X2 X1))) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v3_pencil_1 X0) \wedge ((v1_matroid0 \\ & X0) \wedge ((v2_matroid0 X0) \wedge ((v4_matroid0 X0) \wedge (l1_pre_topc X0)))))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow) \quad (2) \\ & (r1_tarski X1 (k6_matroid0 X0 X1))) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((\neg v3_pencil_1 X0) \wedge \\ & ((v1_matroid0 X0) \wedge ((v2_matroid0 X0) \wedge ((v4_matroid0 X0) \wedge (l1_pre_topc \\ & X0)))))) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow (\\ & m1_subset_1 (k6_matroid0 X0 X1) (k1_zfmisc_1 (u1_struct_0 X0))) \quad (3) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (r1_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow \\ & (X2 \in X1)) \quad (4) \end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v3_pencil_1 X0) \wedge ((v1_matroid0 \\
& X0) \wedge ((v2_matroid0 X0) \wedge ((v4_matroid0 X0) \wedge (l1_pre_topc X0)))))) \Rightarrow \\
& (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow \\
& (k6_matroid0 X0 X1 = ReplSep (toset (\lambda X2 : \iota.m1_subset_1 X2 \\
& (u1_struct_0 X0))) (\lambda X2 : \iota.r2_matroid0 X0 X2 X1) (\lambda X2 : \\
& \iota.X2))) \tag{5}
\end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1) \Leftrightarrow ((r1_tarski X0 X1) \wedge (r1_tarski X1 X0)) \tag{6}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v3_pencil_1 X0) \wedge ((v1_matroid0 \\
& X0) \wedge ((v2_matroid0 X0) \wedge ((v4_matroid0 X0) \wedge (l1_pre_topc X0)))))) \Rightarrow \\
& (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow \\
& (k6_matroid0 X0 (k6_matroid0 X0 X1) = k6_matroid0 X0 X1))
\end{aligned}$$