

t20_matroid0
(TMZ2TNXPP8YvfgpvARWvCDzBCfSHTzyLuhG)

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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 $v1_finset.1 : \iota \Rightarrow o$ 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 $r1_xxreal.0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_matroid0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_card.1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_finset.1 X0) \Rightarrow (\forall X1.(v1_finset.1 X1) \Rightarrow ((r1_tarski X0 X1) \Rightarrow (r1_xxreal.0 (k5_card.1 X0) (k5_card.1 X1)))) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset.1 X0 (k1_zfmisc.1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct.0 X0) \wedge ((\neg v3_pencil.1 X0) \wedge ((v1_matroid0 X0) \wedge ((v2_matroid0 X0) \wedge ((v4_matroid0 X0) \wedge (l1_pre_topc X0)))))) \Rightarrow \\ (\forall X1.(m1_subset.1 X1 (k1_zfmisc.1 (u1_struct.0 X0))) \Rightarrow \\ (\exists X2.((v3_pre_topc X2 X0) \wedge (m1_subset.1 X2 (k1_zfmisc.1 (u1_struct.0 X0)))) \wedge ((r1_tarski X2 X1) \wedge (k5_card.1 X2 = k4_matroid0 X0 X1)))) \quad (3) \end{aligned}$$

Assume the following.

$$\forall X0.(v1_finset.1 X0) \Rightarrow (\forall X1.(m1_subset.1 X1 (k1_zfmisc.1 X0)) \Rightarrow (v1_finset.1 X1)) \quad (4)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct.0 X0) \wedge ((\neg v3_pencil.1 X0) \wedge ((v1_matroid0 X0) \wedge ((v2_matroid0 X0) \wedge ((v4_matroid0 X0) \wedge (l1_pre_topc X0)))))) \Rightarrow \\ (\forall X1.((v1_finset.1 X1) \wedge (m1_subset.1 X1 (k1_zfmisc.1 (u1_struct.0 X0)))) \Rightarrow (r1_xxreal.0 (k4_matroid0 X0 X1) (k5_card.1 X1))) \end{aligned}$$