

t103_card_3 (TML- gKDxjGqig9MNFYyUHVEWBZGcaDZLLs9X)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v2_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v5_funct_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_card_3 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge (v1_funct_1 X1) \wedge (v5_funct_1 X1 X0))) \Rightarrow (r1_tarski (k9_xtuple_0 X1) (k9_xtuple_0 X0))) \quad (1)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.(X1 = k8_card_3 X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (\exists X3.((v1_relat_1 X3) \wedge (v1_funct_1 X3)) \wedge ((X2 = X3) \wedge ((r1_tarski (k9_xtuple_0 X3) (k9_xtuple_0 X0)) \wedge (\forall X4.(X4 \in k9_xtuple_0 X3) \Rightarrow (k1_funct_1 X3 X4 \in k1_funct_1 X0 X4)))))))) \quad (2)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((v5_funct_1 X1 X0) \Leftrightarrow (\forall X2.(X2 \in k9_xtuple_0 X1) \Rightarrow (k1_funct_1 X1 X2 \in k1_funct_1 X0 X2)))) \quad (3)$$

Theorem 1

$$\forall X0.\forall X1.((v1_relat_1 X1) \wedge ((v2_relat_1 X1) \wedge ((v4_relat_1 X1 X0) \wedge (v1_funct_1 X1)))) \Rightarrow (\forall X2.((v1_relat_1 X2) \wedge ((v4_relat_1 X2 X0) \wedge ((v1_funct_1 X2) \wedge (v5_funct_1 X2 X1)))) \Rightarrow (X2 \in k8_card_3 X1))$$