

t12_transgeo

(TMMvCzDtZvFx6SkiCWFjD4vZ5fLTmrdDtbp)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_relat_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_transgeo : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_partfun1 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_relat_1 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v3_relat_2 : \iota \Rightarrow o$ be given. Let $v4_relat_2 : \iota \Rightarrow o$ be given. Let $v8_relat_2 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_relat_2 : \iota \Rightarrow o$ 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.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (k1_funct_1 (k4_relat_1 X1) X0 = X0) \quad (2)$$

Assume the following.

$$\forall X0. k6_partfun1 X0 = k4_relat_1 X0 \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge \\ & (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))))) \wedge (m1_subset_1 X3 X0))) \Rightarrow (k3_funct_2 X0 \\ & X1 X2 X3 = k1_funct_1 X2 X3) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. (v1_relat_1 (k4_relat_1 X0)) \wedge ((v3_relat_2 (k4_relat_1 X0)) \wedge ((v4_relat_2 (k4_relat_1 X0)) \wedge (v8_relat_2 (k4_relat_1 X0)))) \quad (5)$$

Assume the following.

$$\forall X0.(v1_relat_1 (k4_relat_1 X0)) \wedge (v1_funct_1 (k4_relat_1 X0)) \quad (6)$$

Assume the following.

$$\forall X0.(v1_relat_1 (k4_relat_1 X0)) \wedge ((v4_relat_1 (k4_relat_1 X0) X0) \wedge ((v1_funct_1 (k4_relat_1 X0)) \wedge (v1_partfun1 (k4_relat_1 X0) X0))) \quad (7)$$

Assume the following.

$$\forall X0.(v1_partfun1 (k6_partfun1 X0) X0) \wedge (m1_subset_1 (k6_partfun1 X0) (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))) \quad (8)$$

Assume the following.

$$\forall X0.v1_relat_1 (k4_relat_1 X0) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k2_zfmisc_1 X0 X1) \Leftrightarrow (\forall X3.(X3 \in X2) \Leftrightarrow (\exists X4.\exists X5.(X4 \in X0) \wedge ((X5 \in X1) \wedge (X3 = k4_tarski X4 X5)))) \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge (v1_funct_2 X1 X0 X0) \wedge ((v3_funct_2 X1 X0 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0)))))) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0) X0) (k2_zfmisc_1 X0 X0))) \Rightarrow ((r1_transgeo X0 X1 X2) \Leftrightarrow (\forall X3.(m1_subset_1 X3 X0) \Rightarrow (\forall X4.(m1_subset_1 X4 X0) \Rightarrow (k4_tarski (k4_tarski X3 X4) (k4_tarski (k3_funct_2 X0 X0 X1 X3) (k3_funct_2 X0 X0 X1 X4)) \in X2)))))) \quad (11) \end{aligned}$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.(r1_relat_2 X0 X1) \Leftrightarrow (\forall X2.(X2 \in X1) \Rightarrow (k4_tarski X2 X2 \in X0))) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 X0))) \Rightarrow (((v1_relat_2 X1) \wedge ((v1_funct_1 X1) \wedge ((v1_partfun1 X1 X0) \wedge (v1_funct_2 X1 X0 X0)))) \Rightarrow ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 X0 X0) \wedge (v3_funct_2 X1 X0 X0)))) \quad (13)$$

Assume the following.

$$\forall X0.(((v1_relat_1 X0) \wedge ((v3_relat_2 X0) \wedge (v8_relat_2 X0))) \Rightarrow ((v1_relat_1 X0) \wedge (v1_relat_2 X0))) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v1_partfun1 X2 X0)\Rightarrow(v1_funct_2 X2 X0 X1)) \quad (16)$$

Theorem 1

$$\forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) (k2_zfmisc_1 X0 X0))))\Rightarrow((r1_relat_2 X1 (k2_zfmisc_1 X0 X0))\Rightarrow(r1_transgeo X0 (k6_partfun1 X0) X1)))$$