

t32_pcomps_1
 (TMccwob1Y2xzSr2HVaYDnXqCBQ3jMXxzvto)

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Let $l1_metric_1 : \iota \Rightarrow o$ 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 $k2_pcomps_1 : \iota \Rightarrow \iota$ be given. Let $k5_setfam_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_tarski : \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k9_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (r1_tarski X0 (k3_tarski X1)) \quad (1)$$

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.

$$\forall X0. (l1_metric_1 X0) \Rightarrow (u1_struct_0 X0 \in k2_pcomps_1 X0) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((r1_tarski X0 X1) \wedge (r1_tarski X1 X2)) \Rightarrow (r1_tarski X0 X2) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0))) \Rightarrow (k5_setfam_1 X0 X1 = k3_tarski X1) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 X0))) \Rightarrow (m1_subset_1 (k5_setfam_1 X0 X1) (k1_zfmisc_1 X0)) \quad (6)$$

Assume the following.

$$\forall X0. (l1_metric_1 X0) \Rightarrow (m1_subset_1 (k2_pcomps_1 X0) (k1_zfmisc_1 (k1_zfmisc_1 (u1_struct_0 X0)))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k3_tarski\ X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (\exists X3.(X2 \in X3) \wedge (X3 \in X0))) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_metric_1\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\ (k1_zfmisc_1\ (u1_struct_0\ X0)))) \Rightarrow ((X1 = k2_pcomps_1\ X0) \Leftrightarrow (\forall X2. \\ (m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0\ X0))) \Rightarrow ((X2 \in X1) \Leftrightarrow (\forall X3. \\ (m1_subset_1\ X3\ (u1_struct_0\ X0)) \Rightarrow (\neg(X3 \in X2) \wedge (\forall X4.(m1_subset_1 \\ X4\ k1_numbers) \Rightarrow (\neg(\neg r1_xxreal_0\ X4\ k6_numbers) \wedge (r1_tarski\ (k9_metric_1 \\ X0\ X3\ X4)\ X2)))))))))) \quad (9) \end{aligned}$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski\ X0\ X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow (X2 \in X1)) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1) \Leftrightarrow ((r1_tarski\ X0\ X1) \wedge (r1_tarski\ X1\ X0)) \quad (11)$$

Theorem 1

$$\begin{aligned} \forall X0.(l1_metric_1\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\ (k1_zfmisc_1\ (u1_struct_0\ X0)))) \Rightarrow ((r1_tarski\ X1\ (k2_pcomps_1 \\ X0)) \Rightarrow (k5_setfam_1\ (u1_struct_0\ X0)\ X1 \in k2_pcomps_1\ X0))) \end{aligned}$$