

t57_topreal6 (TMGdTJJXYeZjhRiARSjn- wyUR4BGKWPopNHW)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v6_metric_1 : \iota \Rightarrow o$ be given. Let $v7_metric_1 : \iota \Rightarrow o$ be given. Let $v8_metric_1 : \iota \Rightarrow o$ be given. Let $v9_metric_1 : \iota \Rightarrow o$ be given. Let $l1_metric_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k3_pcomps_1 : \iota \Rightarrow \iota$ be given. Let $k10_metric_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.(l1_pre_topc\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\ (u1_struct_0\ X0))) \Rightarrow ((v4_pre_topc\ X1\ X0) \Leftrightarrow (v3_pre_topc\ (k3_subset_1 \\ (u1_struct_0\ X0)\ X1)\ X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0\ X0) \wedge ((v6_metric_1\ X0) \wedge ((v7_metric_1 \\ X0) \wedge ((v8_metric_1\ X0) \wedge ((v9_metric_1\ X0) \wedge (l1_metric_1\ X0)))))) \Rightarrow \\ (\forall X1.(m1_subset_1\ X1\ (u1_struct_0\ X0)) \Rightarrow (\forall X2.(v1_xreal_0 \\ X2) \Rightarrow (\forall X3.(m1_subset_1\ X3\ (k1_zfmisc_1\ (u1_struct_0\ (k3_pcomps_1 \\ X0)))) \Rightarrow ((X3 = k10_metric_1\ X0\ X1\ X2) \Rightarrow (v3_pre_topc\ (k3_subset_1 \\ (u1_struct_0\ (k3_pcomps_1\ X0))\ X3)\ (k3_pcomps_1\ X0)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.(l1_metric_1\ X0) \Rightarrow (l1_pre_topc\ (k3_pcomps_1\ X0)) \quad (3)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0\ X0) \wedge ((v6_metric_1\ X0) \wedge ((v7_metric_1 \\ X0) \wedge ((v8_metric_1\ X0) \wedge ((v9_metric_1\ X0) \wedge (l1_metric_1\ X0)))))) \Rightarrow \\ (\forall X1.(m1_subset_1\ X1\ (u1_struct_0\ X0)) \Rightarrow (\forall X2.(v1_xreal_0 \\ X2) \Rightarrow (\forall X3.(m1_subset_1\ X3\ (k1_zfmisc_1\ (u1_struct_0\ (k3_pcomps_1 \\ X0)))) \Rightarrow ((X3 = k10_metric_1\ X0\ X1\ X2) \Rightarrow (v4_pre_topc\ X3\ (k3_pcomps_1 \\ X0)))))) \end{aligned}$$