

t19_topmetr
(TMRiTvrZUCspp9kZbBBjvJZNSFSjNhPZ8Nj)

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Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k3_topmetr : \iota$ be given. Let $k1_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_topmetr : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_metric_1 : \iota \Rightarrow o$ be given. Let $k8_metric_1 : \iota$ 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 $m1_topmetr : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Let $m1_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $k3_pcomps_1 : \iota \Rightarrow \iota$ be given. Let $k2_topmetr : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_struct_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((r1_xxreal_0 X0 X1) \Rightarrow (u1_struct_0 (k4_topmetr X0 X1) = k1_rcomp_1 X0 X1))) \quad (1)$$

Assume the following.

$$(v1_metric_1 k8_metric_1) \wedge ((v6_metric_1 k8_metric_1) \wedge ((v7_metric_1 k8_metric_1) \wedge ((v8_metric_1 k8_metric_1) \wedge ((v9_metric_1 k8_metric_1)))))) \quad (2)$$

Assume the following.

$$\forall X0.((v6_metric_1 X0) \wedge ((v7_metric_1 X0) \wedge ((v8_metric_1 X0) \wedge ((v9_metric_1 X0) \wedge (l1_metric_1 X0)))))) \Rightarrow (\forall X1.(m1_topmetr X1 X0) \Rightarrow ((v6_metric_1 X1) \wedge ((v7_metric_1 X1) \wedge ((v8_metric_1 X1) \wedge ((v9_metric_1 X1) \wedge (l1_metric_1 X1)))))) \quad (3)$$

Assume the following.

$$\forall X0.(l1_pre_topc X0) \Rightarrow (l1_struct_0 X0) \quad (4)$$

Assume the following.

$$(v1_metric_1 k8_metric_1) \wedge (l1_metric_1 k8_metric_1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0)\wedge(v1_xreal_0 X1))\Rightarrow((\neg v2_struct_0 (k4_topmetr X0 X1))\wedge((v1_pre_topc (k4_topmetr X0 X1))\wedge(m1_pre_topc (k4_topmetr X0 X1) k3_topmetr))) \quad (6)$$

Assume the following.

$$(v2_pre_topc k3_topmetr)\wedge(l1_pre_topc k3_topmetr) \quad (7)$$

Assume the following.

$$\forall X0.(l1_metric_1 X0)\Rightarrow(l1_pre_topc (k3_pcomps_1 X0)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0)\wedge(v1_xreal_0 X1))\Rightarrow((\neg v2_struct_0 (k2_topmetr X0 X1))\wedge((v1_metric_1 (k2_topmetr X0 X1))\wedge(m1_topmetr (k2_topmetr X0 X1) k8_metric_1))) \quad (9)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(\forall X1.(v1_xreal_0 X1)\Rightarrow(k4_topmetr X0 X1 = k3_pcomps_1 (k2_topmetr X0 X1))) \quad (10)$$

Assume the following.

$$\forall X0.(l1_pre_topc X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))\Rightarrow(\forall X2.((v1_pre_topc X2)\wedge(m1_pre_topc X2 X0))\Rightarrow((X2 = k1_pre_topc X0 X1)\Leftrightarrow(k2_struct_0 X2 = X1)))) \quad (11)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0)\Rightarrow(k2_struct_0 X0 = u1_struct_0 X0) \quad (12)$$

Theorem 1

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(\forall X1.(v1_xreal_0 X1)\Rightarrow((r1_xxreal_0 X0 X1)\Rightarrow(\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 k3_topmetr))))\Rightarrow((X2 = k1_rcomp_1 X0 X1)\Rightarrow(k4_topmetr X0 X1 = k1_pre_topc k3_topmetr X2))))))$$