

t9_topalg_2
(TMVKm2nEuKNBb3q963Y2noZPrF26V5EqaDk)

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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 $v2_topalg_2 : \iota \Rightarrow o$ be given. Let $k4_topmetr : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xxreal_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $k3_topmetr : \iota$ be given. Let $v3_topmetr : \iota \Rightarrow o$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v6_xxreal_2 : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $m1_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ 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 $k2_struct_0 : \iota \Rightarrow \iota$ 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.

$$\forall X0.\forall X1.((v1_xreal_0 X0) \wedge (v1_xreal_0 X1)) \Rightarrow (k1_rcomp_1 X0 X1 = k1_xxreal_1 X0 X1) \quad (2)$$

Assume the following.

$$(v2_pre_topc k3_topmetr) \wedge (v3_topmetr k3_topmetr) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (v6_xxreal_2 (k1_xxreal_1 X0 X1)) \quad (4)$$

Assume the following.

$$\forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_pre_topc X1 X0) \Rightarrow (l1_pre_topc X1)) \quad (5)$$

Assume the following.

$$\forall X0.(l1_pre_topc X0) \Rightarrow (l1_struct_0 X0) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0)\wedge(v1_xreal_0 X1))\Rightarrow((\neg v2_struct_0 (k4_topmetr X0 X1))\wedge((v1_pre_topc (k4_topmetr X0 X1))\wedge(m1_pre_topc (k4_topmetr X0 X1) k3_topmetr))) \quad (7)$$

Assume the following.

$$(v2_pre_topc k3_topmetr)\wedge(l1_pre_topc k3_topmetr) \quad (8)$$

Assume the following.

$$\forall X0.((v3_topmetr X0)\wedge(l1_pre_topc X0))\Rightarrow((v2_topalg_2 X0)\Leftrightarrow(v6_xxreal_2 (k2_struct_0 X0))) \quad (9)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0)\Rightarrow(k2_struct_0 X0 = u1_struct_0 X0) \quad (10)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(v1_xxreal_0 X0) \quad (11)$$

Assume the following.

$$\forall X0.((v3_topmetr X0)\wedge(l1_pre_topc X0))\Rightarrow(\forall X1.(m1_pre_topc X1 X0)\Rightarrow(v3_topmetr X1)) \quad (12)$$

Theorem 1

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(\forall X1.(v1_xreal_0 X1)\Rightarrow((r1_xxreal_0 X0 X1)\Rightarrow(v2_topalg_2 (k4_topmetr X0 X1))))$$