

l107_toprealb

(TMHXg2nStd9aNzXnL5vJ6U6oe86QLn7JdAJ)

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Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_topalg_2 : \iota$ be given. Let $k5_toprealb : \iota \Rightarrow \iota$ be given. Let $k1_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k32_sin_cos : \iota$ be given. Let $c33_toprealb : \iota$ be given. Let $c25_toprealb : \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $c26_toprealb : \iota$ 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 $v1_relat_1 : \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((r1_tarski \\ & (k10_xtuple_0 X1) X0) \Rightarrow ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (k9_xtuple_0 \\ & X1) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k9_xtuple_0 \\ & X1) X0)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v5_relat_1 X1 X0)) \Rightarrow (k2_relset_1 X0 X1 = k10_xtuple_0 X1) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (k1_relset_1 X0 X1 = k9_xtuple_0 X1) \tag{3}$$

Assume the following.

$$u1_struct_0 (k1_pre_topc k2_topalg_2 (k5_toprealb c26_toprealb)) = k5_toprealb c26_toprealb \tag{4}$$

Assume the following.

$$u1_struct_0 (k1_pre_topc k2_topalg_2 (k5_toprealb c25_toprealb)) = k5_toprealb c25_toprealb \quad (5)$$

Assume the following.

$$r1_tarski (k2_relset_1 (u1_struct_0 (k1_pre_topc k2_topalg_2 (k5_toprealb (k1_rcomp_1 k6_numbers k32_sin_cos)))) (k2_partfun1 (u1_struct_0 (k1_pre_topc k2_topalg_2 (k5_toprealb (k1_rcomp_1 (k1_real_1 np_1) np_1)))) (u1_struct_0 (k1_pre_topc k2_topalg_2 (k5_toprealb (k1_rcomp_1 k6_numbers k32_sin_cos)))) c33_toprealb (k5_toprealb c25_toprealb))) c26_toprealb \quad (6)$$

Assume the following.

$$k1_relset_1 (u1_struct_0 (k1_pre_topc k2_topalg_2 (k5_toprealb (k1_rcomp_1 (k1_real_1 np_1) np_1)))) (k2_partfun1 (u1_struct_0 (k1_pre_topc k2_topalg_2 (k5_toprealb (k1_rcomp_1 (k1_real_1 np_1) np_1)))) (u1_struct_0 (k1_pre_topc k2_topalg_2 (k5_toprealb (k1_rcomp_1 k6_numbers k32_sin_cos)))) c33_toprealb (k5_toprealb c25_toprealb))) = c25_toprealb \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X2)\wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow((v1_funct_1 (k2_partfun1 X0 X1 X2 X3))\wedge(m1_subset_1 (k2_partfun1 X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \quad (8)$$

Assume the following.

$$(v1_funct_1 c33_toprealb)\wedge((v1_funct_2 c33_toprealb (u1_struct_0 (k1_pre_topc k2_topalg_2 (k5_toprealb (k1_rcomp_1 (k1_real_1 np_1) np_1)))) (u1_struct_0 (k1_pre_topc k2_topalg_2 (k5_toprealb (k1_rcomp_1 k6_numbers k32_sin_cos))))))\wedge((v5_pre_topc c33_toprealb (k1_pre_topc k2_topalg_2 (k5_toprealb (k1_rcomp_1 (k1_real_1 np_1) np_1))) (k1_pre_topc k2_topalg_2 (k5_toprealb (k1_rcomp_1 k6_numbers k32_sin_cos)))))\wedge(m1_subset_1 c33_toprealb (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 (k1_pre_topc k2_topalg_2 (k5_toprealb (k1_rcomp_1 (k1_real_1 np_1) np_1)))) (u1_struct_0 (k1_pre_topc k2_topalg_2 (k5_toprealb (k1_rcomp_1 k6_numbers k32_sin_cos)))))))))) \quad (9)$$

Assume the following.

$$(\neg v1_xboole_0 c26_toprealb)\wedge(m1_subset_1 c26_toprealb (k1_zfmisc_1 k1_numbers)) \quad (10)$$

Assume the following.

$$(\neg v1_xboole_0 \ c25_toprealb) \wedge (m1_subset_1 \ c25_toprealb \ (k1_zfmisc_1 \ k1_numbers)) \quad (11)$$

Assume the following.

$$\forall X0.(m1_subset_1 \ X0 \ (k1_zfmisc_1 \ k1_numbers)) \Rightarrow (k5_toprealb \ X0 = X0) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 \ X2 \ (k1_zfmisc_1 \ k2_zfmisc_1 \ X0 \ X1)) \Rightarrow ((v4_relat_1 \ X2 \ X0) \wedge (v5_relat_1 \ X2 \ X1)) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 \ X2 \ (k1_zfmisc_1 \ k2_zfmisc_1 \ X0 \ X1)) \Rightarrow (v1_relat_1 \ X2) \quad (14)$$

Theorem 1

$$\begin{aligned} & (v1_funct_1 \ (k2_partfun1 \ (u1_struct_0 \ (k1_pre_topc \ k2_topalg_2 \\ & (k5_toprealb \ (k1_rcomp_1 \ (k1_real_1 \ np_1) \ np_1)))) \ (u1_struct_0 \\ & (k1_pre_topc \ k2_topalg_2 \ (k5_toprealb \ (k1_rcomp_1 \ k6_numbers \\ & \ k32_sin_cos)))) \ c33_toprealb \ (k5_toprealb \ c25_toprealb))) \wedge \\ & ((v1_funct_2 \ (k2_partfun1 \ (u1_struct_0 \ (k1_pre_topc \ k2_topalg_2 \\ & (k5_toprealb \ (k1_rcomp_1 \ (k1_real_1 \ np_1) \ np_1)))) \ (u1_struct_0 \\ & (k1_pre_topc \ k2_topalg_2 \ (k5_toprealb \ (k1_rcomp_1 \ k6_numbers \\ & \ k32_sin_cos)))) \ c33_toprealb \ (k5_toprealb \ c25_toprealb))) \\ & (u1_struct_0 \ (k1_pre_topc \ k2_topalg_2 \ (k5_toprealb \ c25_toprealb))) \\ & (u1_struct_0 \ (k1_pre_topc \ k2_topalg_2 \ (k5_toprealb \ c26_toprealb)))) \wedge \\ & (m1_subset_1 \ (k2_partfun1 \ (u1_struct_0 \ (k1_pre_topc \ k2_topalg_2 \\ & (k5_toprealb \ (k1_rcomp_1 \ (k1_real_1 \ np_1) \ np_1)))) \ (u1_struct_0 \\ & (k1_pre_topc \ k2_topalg_2 \ (k5_toprealb \ (k1_rcomp_1 \ k6_numbers \\ & \ k32_sin_cos)))) \ c33_toprealb \ (k5_toprealb \ c25_toprealb))) \\ & (k1_zfmisc_1 \ (k2_zfmisc_1 \ (u1_struct_0 \ (k1_pre_topc \ k2_topalg_2 \\ & (k5_toprealb \ c25_toprealb))) \ (u1_struct_0 \ (k1_pre_topc \ k2_topalg_2 \\ & (k5_toprealb \ c26_toprealb)))))) \end{aligned}$$