

t8_topdim_1

(TMbKoYUdjKLndc9AoarSHy4efjBu5TP77JG)

October 27, 2020

Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ 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 $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_card_1 : \iota \Rightarrow \iota$ be given. Let $k2_topdim_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_topdim_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k13_prob_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k9_setfam_1 : \iota \Rightarrow \iota$ be given. Let $k1_topdim_1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k6_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $np_0 : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & (v7_ordinal1 X1) \Rightarrow (\forall X2.((v1_topdim_1 X2 X0) \wedge (m1_subset_1 \\ & X2 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow ((r1_xxreal_0 (k2_topdim_1 \\ & X0 X2) (k5_real_1 X1 np_1)) \Leftrightarrow (X2 \in k13_prob_1 (u1_struct_0 X0) k5_numbers \\ & (k9_setfam_1 (u1_struct_0 X0) (k1_topdim_1 X0) X1)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (2)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k6_xcmplx_0 X0 k6_numbers = X0) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xreal_0 X2) \Rightarrow (\forall X3.(v1_xreal_0 X3) \Rightarrow (\neg (r1_xxreal_0 \\ & X0 X1) \wedge ((\neg r1_xxreal_0 X3 X2) \wedge (r1_xxreal_0 (k6_xcmplx_0 X1 X2) \\ & (k6_xcmplx_0 X0 X3))))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_1) \wedge (m2_subset_1 \ np_1 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_1 \ k5_numbers) \wedge (m1_subset_1 \ np_1 \ k1_numbers)) \end{aligned} \quad (5)$$

Assume the following.

$$v1_xboole_0 \ np_0 \quad (6)$$

Assume the following.

$$\neg r1_xxreal_0 \ np_1 \ np_0 \quad (7)$$

Assume the following.

$$\forall X0. k9_setfam_1 \ X0 = k1_zfmisc_1 \ X0 \quad (8)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_xreal_0 \ X0) \wedge (m1_subset_1 \ X1 \ k1_numbers)) \Rightarrow \\ & (k5_real_1 \ X0 \ X1 = k6_xcmplx_0 \ X0 \ X1) \end{aligned} \quad (10)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (11)$$

Assume the following.

$$\begin{aligned} & \exists X0. (v1_xboole_0 \ X0) \wedge ((v1_xcmplx_0 \ X0) \wedge ((v1_xxreal_0 \\ & \quad X0) \wedge (v1_xreal_0 \ X0))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v2_pre_topc \ X0) \wedge (l1_pre_topc \ X0)) \Rightarrow (\forall X1. \\ & ((v1_finset_1 \ X1) \wedge (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (u1_struct_0 \\ & \quad X0)))) \Rightarrow ((v1_topdim_1 \ X1 \ X0) \wedge (X1 \in k13_prob_1 \ (u1_struct_0 \ X0) \\ & \quad k5_numbers \ (k9_setfam_1 \ (u1_struct_0 \ X0) \ (k1_topdim_1 \ X0) \ (k5_card_1 \\ & \quad \quad X1)))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0. (v1_finset_1 \ X0) \Rightarrow (m1_subset_1 \ (k5_card_1 \ X0) \ k4_ordinal1) \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v2_pre_topc \ X0) \wedge (l1_pre_topc \ X0)) \wedge \\ & (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (u1_struct_0 \ X0)))) \Rightarrow (v1_int_1 \ (\\ & \quad k2_topdim_1 \ X0 \ X1)) \end{aligned} \quad (15)$$

Assume the following.

$$k1_xboole_0 = the (\lambda X0 : \iota.v1_xboole_0 X0) \quad (16)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (17)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (v1_xcmplx_0 X0) \quad (18)$$

Assume the following.

$$\forall X0.(v1_int_1 X0) \Rightarrow (v1_xreal_0 X0) \quad (19)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (v1_xreal_0 X0) \quad (20)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xreal_0 X0) \quad (21)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & ((v1_finset_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & X0)))) \Rightarrow (\neg r1_xxreal_0 (k5_card_1 X1) (k2_topdim_1 X0 X1))) \end{aligned}$$