

t37_topreala

(TMMDXfoifYD2PhbZ9b3gJNDS6NfrBR4nyrf)

October 27, 2020

Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_t_0topsp : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_borsuk_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_topmetr : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_topreala : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ 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 $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_topmetr : \iota$ be given. Let $k15_euclid : \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $k2_topreala : \iota$ be given. Let $v3_tops_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $k5_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $m1_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_rltopsp1 : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v5_rltopsp1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2. \\
& (v1_xreal_0 X2) \Rightarrow (\forall X3.(v1_xreal_0 X3) \Rightarrow (((r1_xxreal_0 \\
& X0 X1) \wedge (r1_xxreal_0 X2 X3)) \Rightarrow (\forall X4. ((v1_funct_1 X4) \wedge ((v1_funct_2 \\
& X4 (u1_struct_0 (k2_borsuk_1 (k4_topmetr X0 X1) (k4_topmetr X2 \\
& X3))) (u1_struct_0 (k1_topreala X0 X1 X2 X3))) \wedge (m1_subset_1 X4 \\
& (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 (k2_borsuk_1 (k4_topmetr \\
& X0 X1) (k4_topmetr X2 X3))) (u1_struct_0 (k1_topreala X0 X1 X2 X3)))))) \Rightarrow \\
& ((X4 = k2_partfun1 (u1_struct_0 (k2_borsuk_1 k3_topmetr k3_topmetr)) \\
& (u1_struct_0 (k15_euclid np_2)) k2_topreala (u1_struct_0 (k2_borsuk_1 \\
& (k4_topmetr X0 X1) (k4_topmetr X2 X3)))) \Rightarrow (v3_tops_2 X4 (k2_borsuk_1 \\
& (k4_topmetr X0 X1) (k4_topmetr X2 X3)) (k1_topreala X0 X1 X2 X3))))))))) \Rightarrow \\
& (1)
\end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2. \\
& (v1_xreal_0 X2) \Rightarrow (\forall X3.(v1_xreal_0 X3) \Rightarrow (((r1_xxreal_0 \\
& X0 X1) \wedge (r1_xxreal_0 X2 X3)) \Rightarrow ((v1_funct_1 (k2_partfun1 (u1_struct_0 \\
& (k2_borsuk_1 k3_topmetr k3_topmetr)) (u1_struct_0 (k15_euclid \\
& np_2)) k2_topreala (u1_struct_0 (k2_borsuk_1 (k4_topmetr X0 \\
& X1) (k4_topmetr X2 X3)))))) \wedge ((v1_funct_2 (k2_partfun1 (u1_struct_0 \\
& (k2_borsuk_1 k3_topmetr k3_topmetr)) (u1_struct_0 (k15_euclid \\
& np_2)) k2_topreala (u1_struct_0 (k2_borsuk_1 (k4_topmetr X0 \\
& X1) (k4_topmetr X2 X3)))) (u1_struct_0 (k2_borsuk_1 (k4_topmetr \\
& X0 X1) (k4_topmetr X2 X3))) (u1_struct_0 (k1_topreala X0 X1 X2 X3)))) \wedge \\
& (m1_subset_1 (k2_partfun1 (u1_struct_0 (k2_borsuk_1 k3_topmetr \\
& k3_topmetr)) (u1_struct_0 (k15_euclid np_2)) k2_topreala (u1_struct_0 \\
& (k2_borsuk_1 (k4_topmetr X0 X1) (k4_topmetr X2 X3)))) (k1_zfmisc_1 \\
& (k2_zfmisc_1 (u1_struct_0 (k2_borsuk_1 (k4_topmetr X0 X1) (k4_topmetr \\
& X2 X3))) (u1_struct_0 (k1_topreala X0 X1 X2 X3))))))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& ((v2_xxreal_0 np_2) \wedge (m2_subset_1 np_2 k1_numbers k5_numbers)) \wedge \\
& ((m1_subset_1 np_2 k5_numbers) \wedge (m1_subset_1 np_2 k1_numbers))
\end{aligned} \tag{3}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \tag{4}$$

Assume the following.

$$v6_membered k4_ordinal1 \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_pre_topc X1 X0) \Rightarrow \\
& (l1_pre_topc X1))
\end{aligned} \tag{6}$$

Assume the following.

$$\forall X0.(l1_rltopsp1 X0) \Rightarrow ((l1_rlvect_1 X0) \wedge (l1_pre_topc X0)) \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((v1_xreal_0 X0) \wedge (v1_xreal_0 X1)) \Rightarrow ((\neg \\
& v2_struct_0 (k4_topmetr X0 X1)) \wedge ((v1_pre_topc (k4_topmetr X0 \\
& X1)) \wedge (m1_pre_topc (k4_topmetr X0 X1) k3_topmetr)))
\end{aligned} \tag{8}$$

Assume the following.

$$(v2_pre_topc k3_topmetr) \wedge (l1_pre_topc k3_topmetr) \tag{9}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v2_pre_topc\ X0) \wedge (l1_pre_topc\ X0)) \wedge \\ & ((v2_pre_topc\ X1) \wedge (l1_pre_topc\ X1))) \Rightarrow ((v1_pre_topc\ (k2_borsuk_1 \\ & X0\ X1)) \wedge ((v2_pre_topc\ (k2_borsuk_1\ X0\ X1)) \wedge (l1_pre_topc\ (k2_borsuk_1 \\ & X0\ X1)))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1_xreal_0\ X0) \wedge \\ & ((v1_xreal_0\ X1) \wedge ((v1_xreal_0\ X2) \wedge (v1_xreal_0\ X3)))) \Rightarrow (m1_pre_topc \\ & (k1_topreala\ X0\ X1\ X2\ X3)\ (k15_euclid\ np_2)) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v7_ordinal1\ X0) \Rightarrow ((v5_rltopsp1\ (k15_euclid\ X0)) \wedge \\ & (l1_rltopsp1\ (k15_euclid\ X0))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l1_pre_topc\ X0) \Rightarrow (\forall X1. (l1_pre_topc\ X1) \Rightarrow ((\\ & r1_t_0topsp\ X0\ X1) \Leftrightarrow (\exists X2. ((v1_funct_1\ X2) \wedge ((v1_funct_2 \\ & X2\ (u1_struct_0\ X0)\ (u1_struct_0\ X1)) \wedge (m1_subset_1\ X2\ (k1_zfmisc_1 \\ & (k2_zfmisc_1\ (u1_struct_0\ X0)\ (u1_struct_0\ X1)))))) \wedge (v3_tops_2 \\ & X2\ X0\ X1)))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v2_pre_topc\ X0) \wedge (l1_pre_topc\ X0)) \Rightarrow (\forall X1. \\ & (m1_pre_topc\ X1\ X0) \Rightarrow (v2_pre_topc\ X1)) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v6_membered\ X0) \Rightarrow (\forall X1. (m1_subset_1\ X1\ X0) \Rightarrow \\ & (v7_ordinal1\ X1)) \end{aligned} \quad (15)$$

Theorem 1

$$\begin{aligned} & \forall X0. (v1_xreal_0\ X0) \Rightarrow (\forall X1. (v1_xreal_0\ X1) \Rightarrow (\forall X2. \\ & (v1_xreal_0\ X2) \Rightarrow (\forall X3. (v1_xreal_0\ X3) \Rightarrow (((r1_xxreal_0 \\ & X0\ X1) \wedge (r1_xxreal_0\ X2\ X3)) \Rightarrow (r1_t_0topsp\ (k2_borsuk_1\ (k4_topmetr \\ & X0\ X1)\ (k4_topmetr\ X2\ X3))\ (k1_topreala\ X0\ X1\ X2\ X3)))))) \end{aligned}$$