

t66_borsuk_5

(TMM1Qw191vCXPAckUDM3wtcxjRtF5yQvMas)

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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 $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k2_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xxreal_0 : \iota$ be given. Let $k4_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_borsuk_5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_seq_4 : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k1_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $k3_xxreal_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 k3_topmetr))) \Rightarrow \\ & (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2.(v1_xreal_0 X2) \Rightarrow ((X0 = \\ & k4_subset_1 k1_numbers (k2_rcomp_1 k2_xxreal_0 X1) (k4_rcomp_1 \\ & X1 X2)) \Rightarrow ((r1_xxreal_0 X2 X1) \vee (k2_pre_topc k3_topmetr X0 = k4_rcomp_1 \\ & k2_xxreal_0 X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (k2_xboole_0 (k1_tarski X0) X1 = X1) \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 k3_topmetr))) \Rightarrow \\ & (\forall X1.(v1_xreal_0 X1) \Rightarrow ((X0 = k1_seq_4 X1) \Rightarrow (k2_pre_topc \\ & k3_topmetr X0 = k1_seq_4 X1))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 k3_topmetr))) \Rightarrow \\ & (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2.(v1_xreal_0 X2) \Rightarrow ((X0 = \\ & k3_borsuk_5 X1 X2) \Rightarrow ((r1_xxreal_0 X2 X1) \vee (k2_pre_topc k3_topmetr \\ & X0 = k1_rcomp_1 X1 X2)))))) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((X1 \in k3_xxreal_1 k2_xxreal_0 X0) \Leftrightarrow (r1_xxreal_0 X1 X0))) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (k2_pre_topc \\ X0 (k4_subset_1 (u1_struct_0 X0) X1 X2) = k4_subset_1 (u1_struct_0 \\ X0) (k2_pre_topc X0 X1) (k2_pre_topc X0 X2)))) \end{aligned} \quad (6)$$

Assume the following.

$$u1_struct_0 k3_topmetr = k1_numbers \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2. \\ (v1_xreal_0 X2) \Rightarrow (((r1_xxreal_0 X0 X2) \wedge (r1_xxreal_0 X2 X1)) \Rightarrow (\\ k4_subset_1 k1_numbers (k4_rcomp_1 k2_xxreal_0 X2) (k1_rcomp_1 \\ X0 X1) = k4_rcomp_1 k2_xxreal_0 X1)))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (r1_xxreal_0 X0 X0) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k1_zfmisc_1 \\ X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 X0))) \Rightarrow (k4_subset_1 X0 X1 X2 = \\ k2_xboole_0 X1 X2) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0) \wedge (v1_xreal_0 X1)) \Rightarrow (k4_rcomp_1 X0 X1 = k3_xxreal_1 X0 X1) \quad (11)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (k1_seq_4 X0 = k1_tarski X0) \quad (12)$$

Assume the following.

$$v1_xxreal_0 k2_xxreal_0 \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k1_zfmisc_1 \\ X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 X0))) \Rightarrow (m1_subset_1 (k4_subset_1 \\ X0 X1 X2) (k1_zfmisc_1 X0)) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0)\wedge(v1_xreal_0 X1))\Rightarrow(m1_subset_1 (k4_rcomp_1 X0 X1) (k1_zfmisc_1 k1_numbers)) \quad (15)$$

Assume the following.

$$(v2_pre_topc k3_topmetr)\wedge(l1_pre_topc k3_topmetr) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0)\wedge(v1_xreal_0 X1))\Rightarrow(m1_subset_1 (k3_borsuk_5 X0 X1) (k1_zfmisc_1 k1_numbers)) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0)\wedge(v1_xreal_0 X1))\Rightarrow(m1_subset_1 (k2_rcomp_1 X0 X1) (k1_zfmisc_1 k1_numbers)) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.((l1_pre_topc X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))))\Rightarrow(m1_subset_1 (k2_pre_topc X0 X1) (k1_zfmisc_1 (u1_struct_0 X0))) \quad (19)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(m1_subset_1 (k1_seq_4 X0) (k1_zfmisc_1 k1_numbers)) \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0)\wedge(v1_xreal_0 X1))\Rightarrow(m1_subset_1 (k1_rcomp_1 X0 X1) (k1_zfmisc_1 k1_numbers)) \quad (21)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0)\wedge(v1_xxreal_0 X1))\Rightarrow((r1_xxreal_0 X0 X1)\vee(r1_xxreal_0 X1 X0)) \quad (22)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k1_zfmisc_1 X0))\wedge(m1_subset_1 X2 (k1_zfmisc_1 X0)))\Rightarrow(k4_subset_1 X0 X1 X2 = k4_subset_1 X0 X2 X1) \quad (23)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(v1_xxreal_0 X0) \quad (24)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 k3_topmetr))) \Rightarrow \\ & \quad (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2.(v1_xreal_0 X2) \Rightarrow (\forall X3. \\ & (v1_xreal_0 X3) \Rightarrow ((X0 = k4_subset_1 k1_numbers (k4_subset_1 k1_numbers \\ & \quad (k4_subset_1 k1_numbers (k2_rcomp_1 k2_xxreal_0 X1) (k4_rcomp_1 \\ & \quad X1 X2)) (k3_borsuk_5 X2 X3)) (k1_seq_4 X3)) \Rightarrow ((r1_xxreal_0 X2 X1) \vee \\ & ((r1_xxreal_0 X3 X2) \vee (k2_pre_topc k3_topmetr X0 = k4_rcomp_1 k2_xxreal_0 \\ & \quad X3)))))))) \end{aligned}$$