

t54_borsuk_5 (TM-
RzMqXvEe1nM14oneeWk1urxqkMPG6TTXo)

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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 $k3_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xxreal_0 : \iota$ 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 $k1_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 k3_topmetr))) \Rightarrow \\ & (\forall X1.(v1_xreal_0 X1) \Rightarrow ((X0 = k2_rcomp_1 X1 k1_xxreal_0) \Rightarrow \\ & (k2_pre_topc k3_topmetr X0 = k3_rcomp_1 X1 k1_xxreal_0))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 k3_topmetr))) \Rightarrow \\ & (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2.(v1_xreal_0 X2) \Rightarrow ((X0 = \\ & k3_rcomp_1 X1 X2) \Rightarrow ((X1 = X2) \vee (k2_pre_topc k3_topmetr X0 = k1_rcomp_1 \\ & X1 X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (k2_pre_topc \\ & X0 (k4_subset_1 (u1_struct_0 X0) X1 X2) = k4_subset_1 (u1_struct_0 \\ & X0) (k2_pre_topc X0 X1) (k2_pre_topc X0 X2)))) \end{aligned} \quad (3)$$

Assume the following.

$$u1_struct_0 k3_topmetr = k1_numbers \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xreal_0 X2) \Rightarrow (((r1_xxreal_0 X0 X2) \wedge (r1_xxreal_0 X2 X1)) \Rightarrow (\\ & k4_subset_1 k1_numbers (k1_rcomp_1 X0 X1) (k3_rcomp_1 X2 k1_xxreal_0) = \\ & k3_rcomp_1 X0 k1_xxreal_0)))) \end{aligned} \quad (5)$$

Assume the following.

$$v1_xxreal_0 k1_xxreal_0 \quad (6)$$

Assume the following.

$$(v2_pre_topc k3_topmetr) \wedge (l1_pre_topc k3_topmetr) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_xreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (m1_subset_1 \\ & (k3_rcomp_1 X0 X1) (k1_zfmisc_1 k1_numbers)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (\\ & m1_subset_1 (k2_rcomp_1 X0 X1) (k1_zfmisc_1 k1_numbers)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (\\ & (r1_xxreal_0 X0 X1) \vee (r1_xxreal_0 X1 X0)) \end{aligned} \quad (10)$$

Assume the following.

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

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 k3_topmetr))) \Rightarrow \\ & (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2.(v1_xreal_0 X2) \Rightarrow ((X0 = \\ & k4_subset_1 k1_numbers (k3_rcomp_1 X1 X2) (k2_rcomp_1 X2 k1_xxreal_0)) \Rightarrow \\ & ((r1_xxreal_0 X2 X1) \vee (k2_pre_topc k3_topmetr X0 = k3_rcomp_1 X1 \\ & k1_xxreal_0)))))) \end{aligned}$$