

t10_borsuk.5 (TMTTQUqbym- LiYm6PpNZFryxitkdREZpCEHx)

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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 $r1_xreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_connsp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_xxreal_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xxreal_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xxreal_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k6_measure6 : \iota \Rightarrow \iota$ 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. Assume the following.

$$\begin{aligned} & \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xxreal_0 X2) \Rightarrow (\forall X3.(v1_xxreal_0 X3) \Rightarrow ((r1_xreal_0 \\ & X0 X1) \Rightarrow (r1_xboole_0 (k2_xxreal_1 X2 X0) (k1_xxreal_1 X1 X3)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xxreal_0 X2) \Rightarrow (\forall X3.(v1_xxreal_0 X3) \Rightarrow ((r1_xreal_0 \\ & X0 X1) \Rightarrow (r1_xboole_0 (k1_xxreal_1 X2 X0) (k3_xxreal_1 X1 X3)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 (k1_zfmisc_1 k1_numbers)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 k3_topmetr))) \Rightarrow ((X0 = \\ & X1) \Rightarrow (k6_measure6 X0 = k2_pre_topc k3_topmetr X1))) \end{aligned} \quad (3)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((X0 \neq \\ & X1) \Rightarrow (k6_measure6 (k3_rcomp_1 X0 X1) = k1_rcomp_1 X0 X1))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((X0 \neq X1) \Rightarrow (k6_measure6 (k4_rcomp_1 X0 X1) = k1_rcomp_1 X0 X1))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (r1_xxreal_0 X0 X0) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (k4_rcomp_1 X0 X1 = k3_xxreal_1 X0 X1) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (k3_rcomp_1 X0 X1 = k2_xxreal_1 X0 X1) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0) \wedge (v1_xreal_0 X1)) \Rightarrow (k1_rcomp_1 X0 X1 = k1_xxreal_1 X0 X1) \quad (10)$$

Assume the following.

$$(v2_pre_topc k3_topmetr) \wedge (l1_pre_topc k3_topmetr) \quad (11)$$

Assume the following.

$$\forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((r1_connsp_1 X0 X1 X2) \Leftrightarrow ((r1_xboole_0 (k2_pre_topc X0 X1) X2) \wedge (r1_xboole_0 X1 (k2_pre_topc X0 X2)))))) \quad (12)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (v1_xxreal_0 X0) \quad (13)$$

Theorem 1

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 k3_topmetr))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 k3_topmetr))) \Rightarrow (\forall X2.(v1_xreal_0 X2) \Rightarrow (\forall X3.(v1_xreal_0 X3) \Rightarrow (\forall X4.(v1_xxreal_0 X4) \Rightarrow (\forall X5.(v1_xreal_0 X5) \Rightarrow (((r1_xxreal_0 X3 X4) \wedge ((X0 = k3_rcomp_1 X2 X3) \wedge (X1 = k4_rcomp_1 X4 X5)) \Rightarrow ((r1_xxreal_0 X3 X2) \vee (r1_xxreal_0 X5 X4) \vee (r1_connsp_1 k3_topmetr X0 X1))))))))))$$