

t10_urysohn1
(TMEpwn9RN6aymZiZ5tUZYTTC89dZE9J7SKbq)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k1_urysohn1 : \iota \Rightarrow \iota$ be given. Let $k6_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_urysohn1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13_newton : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k2_newton : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_newton : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (1)$$

Assume the following.

$$((v2_xxreal_0 np_2) \wedge (m2_subset_1 np_2 k1_numbers k5_numbers)) \wedge ((m1_subset_1 np_2 k5_numbers) \wedge (m1_subset_1 np_2 k1_numbers)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \quad (3)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 X0 k1_numbers) \wedge (v7_ordinal1 X1)) \Rightarrow (k2_newton X0 X1 = k1_newton X0 X1) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 X0 k5_numbers) \wedge (m1_subset_1 X1 k5_numbers)) \Rightarrow (k13_newton X0 X1 = k1_newton X0 X1) \quad (6)$$

Assume the following.

$$v6_membered\ k4_ordinal1 \quad (7)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0) \Rightarrow (\neg v1_xboole_0\ (k1_urysohn1\ X0)) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1_xboole_0\ X0) \wedge ((\neg v1_xboole_0\ X1) \wedge \\ (m1_subset_1\ X1\ (k1_zfmisc_1\ X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\ X2\ X0\ X1) \Rightarrow (m1_subset_1\ X2\ X0)) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0) \Rightarrow (m1_subset_1\ (k1_urysohn1\ X0)\ (k1_zfmisc_1\ k1_numbers)) \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.(m2_subset_1\ X1\ k1_numbers \\ (k1_urysohn1\ X0)) \Rightarrow (\forall X2.(m1_subset_1\ X2\ k5_numbers) \Rightarrow (\\ (X2 = k6_urysohn1\ X0\ X1) \Leftrightarrow (X1 = k6_real_1\ X2\ (k2_newton\ np_2\ X0)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1 \\ k1_numbers)) \Rightarrow ((X1 = k1_urysohn1\ X0) \Leftrightarrow (\forall X2.(m1_subset_1 \\ X2\ k1_numbers) \Rightarrow ((X2 \in X1) \Leftrightarrow (\exists X3.(m1_subset_1\ X3\ k5_numbers) \wedge \\ ((r1_xreal_0\ X3\ (k2_newton\ np_2\ X0)) \wedge (X2 = k6_real_1\ X3\ (k2_newton \\ np_2\ X0)))))))))) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.(v1_xboole_0\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ X0)) \Rightarrow (v1_xboole_0\ X1)) \quad (13)$$

Assume the following.

$$\forall X0.(v6_membered\ X0) \Rightarrow (\forall X1.(m1_subset_1\ X1\ X0) \Rightarrow (v7_ordinal1\ X1)) \quad (14)$$

Theorem 1

$$\begin{aligned} \forall X0.(m1_subset_1\ X0\ k5_numbers) \Rightarrow (\forall X1.(m2_subset_1 \\ X1\ k1_numbers\ (k1_urysohn1\ X0)) \Rightarrow ((X1 = k6_real_1\ (k6_urysohn1 \\ X0\ X1)\ (k13_newton\ np_2\ X0)) \wedge (r1_xreal_0\ (k6_urysohn1\ X0\ X1) \\ (k13_newton\ np_2\ X0)))) \end{aligned}$$