

t16_xxreal_2

(TMd2HcVGmXx3wWtyxzkFTFE6ymFGv2P9qUx)

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Let $v3_membered : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v4_xxreal_2 : \iota \Rightarrow o$ be given. Let $k1_xxreal_2 : \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_membered : \iota \Rightarrow o$ be given. Let $m1_xxreal_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0) \wedge (v3_membered X0)) \Rightarrow (\exists X1. (v1_xreal_0 X1) \wedge (X1 \in X0)) \quad (1)$$

Assume the following.

$$\forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2. (v1_xxreal_0 X2) \Rightarrow (((X0 \in k1_numbers) \wedge (X1 \in k1_numbers) \wedge (r1_xxreal_0 X0 X2) \wedge (r1_xxreal_0 X2 X1)))) \Rightarrow (X2 \in k1_numbers))) \quad (2)$$

Assume the following.

$$\forall X0.(v2_membered X0) \Rightarrow (v1_xxreal_0 (k1_xxreal_2 X0)) \quad (3)$$

Assume the following.

$$\forall X0.(v2_membered X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow ((X1 = k1_xxreal_2 X0) \Leftrightarrow ((m1_xxreal_2 X1 X0) \wedge (\forall X2.(m1_xxreal_2 X2 X0) \Rightarrow (r1_xxreal_0 X1 X2)))))) \quad (4)$$

Assume the following.

$$\forall X0.(v2_membered X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow ((m1_xxreal_2 X1 X0) \Leftrightarrow (\forall X2.(v1_xxreal_0 X2) \Rightarrow ((X2 \in X0) \Rightarrow (r1_xxreal_0 X2 X1)))))) \quad (5)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Leftrightarrow (X0 \in k1_numbers) \quad (6)$$

Assume the following.

$$\forall X0.(v2_membered\ X0)\Rightarrow((v4_xxreal_2\ X0)\Leftrightarrow(\exists X1.(v1_xreal_0\ X1)\wedge(m1_xxreal_2\ X1\ X0))) \quad (7)$$

Assume the following.

$$\forall X0.(v1_xreal_0\ X0)\Rightarrow(v1_xxreal_0\ X0) \quad (8)$$

Assume the following.

$$\forall X0.(v3_membered\ X0)\Rightarrow(v2_membered\ X0) \quad (9)$$

Theorem 1

$$\forall X0.((v3_membered\ X0)\wedge(\neg v1_xboole_0\ X0))\Rightarrow((v4_xxreal_2\ X0)\Rightarrow(k1_xxreal_2\ X0 \in k1_numbers))$$