

t102_xxreal_3 (TM-
PXG2a1GJLCvKVWkCShJ3hcGudSdrULdGU)

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Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k2_xxreal_0 : \iota$ be given. Let $k4_xxreal_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xxreal_0 : \iota$ be given. Let $k6_xxreal_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k1_numbers : \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \neg(v1_xboole_0 X0) \wedge ((X0 \neq X1) \wedge (v1_xboole_0 X1)) \quad (1)$$

Assume the following.

$$\forall X0. (v1_xxreal_0 X0) \Rightarrow (\forall X1. (v1_xxreal_0 X1) \Rightarrow (\neg(k2_xxreal_0 \neq X0) \wedge ((X0 \neq k1_xxreal_0) \wedge ((X0 \neq k6_numbers) \wedge (\neg(k6_xxreal_3 (k4_xxreal_3 X1 X0) X0 = X1) \wedge (k4_xxreal_3 X1 (k6_xxreal_3 X0 X0) = X1))))))) \quad (2)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (3)$$

Assume the following.

$$\forall X0. (v1_xreal_0 X0) \Rightarrow (\forall X1. (v1_xreal_0 X1) \Rightarrow ((r1_xxreal_0 X0 X1) \wedge (r1_xxreal_0 X1 X0)) \Rightarrow (X0 = X1)) \quad (4)$$

Assume the following.

$$\forall X0. (v1_xxreal_0 X0) \Rightarrow (\forall X1. (v1_xxreal_0 X1) \Rightarrow (\neg(X0 \in k1_numbers) \wedge ((r1_xxreal_0 X1 X0) \wedge ((\neg X1 \in k1_numbers) \wedge (X1 \neq k2_xxreal_0)))))) \quad (5)$$

Assume the following.

$$\forall X0. (v1_xxreal_0 X0) \Rightarrow (\forall X1. (v1_xxreal_0 X1) \Rightarrow (\forall X2. (v1_xxreal_0 X2) \Rightarrow (((r1_xxreal_0 X0 X1) \wedge (r1_xxreal_0 X2 k6_numbers)) \Rightarrow (r1_xxreal_0 (k4_xxreal_3 X1 X2) (k4_xxreal_3 X0 X2)))))) \quad (6)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (7)$$

Assume the following.

$$\exists X0.(v1_xboole_0 X0) \wedge (v1_xxreal_0 X0) \quad (8)$$

Assume the following.

$$\exists X0.(v1_xboole_0 X0) \wedge ((v1_xcmplx_0 X0) \wedge ((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X0))) \quad (9)$$

Assume the following.

$$\neg v1_xxreal_0 k1_xxreal_0 \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (v1_xxreal_0 (k4_xxreal_3 X0 X1)) \quad (11)$$

Assume the following.

$$k1_xxreal_0 = k1_numbers \quad (12)$$

Assume the following.

$$\forall X0.(v1_xxreal_0 X0) \Leftrightarrow (X0 \in k1_numbers) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (r1_xxreal_0 X0 X1) \vee (r1_xxreal_0 X1 X0) \quad (14)$$

Assume the following.

$$\forall X0.(v1_xxreal_0 X0) \Rightarrow (v1_xxreal_0 X0) \quad (15)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xxreal_0 X2) \Rightarrow (\neg(\neg r1_xxreal_0 X1 X0) \wedge ((\neg r1_xxreal_0 k6_numbers \\ & X2) \wedge ((X2 \neq k2_xxreal_0) \wedge (r1_xxreal_0 (k4_xxreal_3 X0 X2) (k4_xxreal_3 \\ & X1 X2))))))) \end{aligned}$$