

t83_xxreal_3
(TMLZ22pSobUbiT7UtwB7Ytnn7qbF48LW2yj)

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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 $k1_xxreal_0 : \iota$ be given. Let $k6_xxreal_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k2_xxreal_0 : \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k7_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k5_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_0 : \iota$ be given. Let $k4_xxreal_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_xxreal_3 : \iota \Rightarrow \iota$ be given. Let $v3_xxreal_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\neg(X0 \in X1) \wedge (r1_tarski X1 X0) \quad (2)$$

Assume the following.

$$\forall X0.(v1_xxreal_0 X0) \Rightarrow (r1_xxreal_0 X0 k1_xxreal_0) \quad (3)$$

Assume the following.

$$\forall X0.((v1_xxreal_0 X0) \wedge ((v2_xxreal_0 X0) \wedge (\neg v1_xreal_0 X0))) \Rightarrow (X0 = k1_xxreal_0) \quad (4)$$

Assume the following.

$$\forall X0.(v1_xxreal_0 X0) \Rightarrow (\neg(\neg X0 \in k1_numbers) \wedge ((X0 \neq k1_xxreal_0) \wedge (X0 \neq k2_xxreal_0))) \quad (5)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k7_xcmplx_0 np_1 X0 = k5_xcmplx_0 X0) \quad (6)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_1) \wedge (m2_subset_1 \ np_1 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_1 \ k5_numbers) \wedge (m1_subset_1 \ np_1 \ k1_numbers)) \end{aligned} \quad (7)$$

Assume the following.

$$\neg v1_xboole_0 \ np_1 \quad (8)$$

Assume the following.

$$v1_xboole_0 \ np_0 \quad (9)$$

Assume the following.

$$\forall X0. \forall X1. r1_tarski \ X0 \ X0 \quad (10)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (11)$$

Assume the following.

$$\exists X0. (v1_xboole_0 \ X0) \wedge ((v1_xcmplx_0 \ X0) \wedge ((v1_xxreal_0 \ X0) \wedge (v1_xreal_0 \ X0))) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v1_xxreal_0 \ X0) \Rightarrow (\forall X1. (v1_xxreal_0 \ X1) \Rightarrow (\neg \\ & (k4_xxreal_3 \ X0 \ X1 \in k1_numbers) \wedge ((\neg (X0 \in k1_numbers) \wedge (X1 \in k1_numbers)) \wedge \\ & (k4_xxreal_3 \ X0 \ X1 \neq k6_numbers)))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_xreal_0 \ X0) \wedge (v1_xcmplx_0 \ X1)) \Rightarrow ((X0 = X1) \Rightarrow (k5_xxreal_3 \ X0 = k5_xcmplx_0 \ X1)) \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v1_xboole_0 \ X0) \wedge (v1_xcmplx_0 \ X0)) \wedge \\ & ((\neg v1_xboole_0 \ X1) \wedge (v1_xcmplx_0 \ X1))) \Rightarrow (\neg v1_xboole_0 \ (k7_xcmplx_0 \\ & \ X0 \ X1)) \end{aligned} \quad (15)$$

Assume the following.

$$v3_xxreal_0 \ k2_xxreal_0 \quad (16)$$

Assume the following.

$$\forall X0. (v1_xreal_0 \ X0) \Rightarrow ((v1_xcmplx_0 \ (k5_xcmplx_0 \ X0)) \wedge (v1_xreal_0 \ (k5_xcmplx_0 \ X0))) \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v1_xboole_0 X0) \wedge (v1_xxreal_0 X0)) \wedge \\ & ((\neg v1_xboole_0 X1) \wedge (v1_xxreal_0 X1))) \Rightarrow ((\neg v1_xboole_0 (k4_xxreal_3 \\ & X0 X1)) \wedge (v1_xxreal_0 (k4_xxreal_3 X0 X1))) \end{aligned} \quad (18)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1_xxreal_0 X0) \wedge (\neg v3_xxreal_0 X0)) \wedge \\ & ((v1_xxreal_0 X1) \wedge (\neg v3_xxreal_0 X1))) \Rightarrow ((v1_xxreal_0 (k6_xxreal_3 \\ & X0 X1)) \wedge (\neg v3_xxreal_0 (k6_xxreal_3 X0 X1))) \end{aligned} \quad (19)$$

Assume the following.

$$v1_xxreal_0 k1_xxreal_0 \quad (20)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (21)$$

Assume the following.

$$\forall X0. (v1_xxreal_0 X0) \Rightarrow (\forall X1. (v1_xxreal_0 X1) \Rightarrow (k6_xxreal_3 X0 X1 = k4_xxreal_3 X0 (k5_xxreal_3 X1))) \quad (22)$$

Assume the following.

$$\forall X0. (v1_xxreal_0 X0) \Rightarrow ((v3_xxreal_0 X0) \Leftrightarrow (\neg r1_xxreal_0 k6_numbers X0)) \quad (23)$$

Assume the following.

$$\forall X0. (v1_xxreal_0 X0) \Rightarrow ((v2_xxreal_0 X0) \Leftrightarrow (\neg r1_xxreal_0 X0 k6_numbers)) \quad (24)$$

Assume the following.

$$k1_xxreal_0 = k1_numbers \quad (25)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (r1_xxreal_0 X0 X1) \vee (r1_xxreal_0 X1 X0) \quad (26)$$

Assume the following.

$$\forall X0. ((v1_xboole_0 X0) \wedge (v1_xxreal_0 X0)) \Rightarrow ((v1_xxreal_0 X0) \wedge ((\neg v2_xxreal_0 X0) \wedge (\neg v3_xxreal_0 X0))) \quad (27)$$

Assume the following.

$$\forall X0. (v1_xxreal_0 X0) \Rightarrow (v1_xxreal_0 X0) \quad (28)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(v1_xcmplx_0 X0) \quad (29)$$

Assume the following.

$$\forall X0.((v1_xxreal_0 X0)\wedge((\neg v3_xxreal_0 X0)\wedge(\neg v1_xreal_0 X0)))\Rightarrow((v1_xxreal_0 X0)\wedge(v2_xxreal_0 X0)) \quad (30)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(v1_xcmplx_0 X0) \quad (31)$$

Theorem 1

$$\forall X0.(v1_xxreal_0 X0)\Rightarrow(\neg(\neg r1_xxreal_0 X0 k6_numbers)\wedge((X0\neq k1_xxreal_0)\wedge(k6_xxreal_3 k1_xxreal_0 X0\neq k1_xxreal_0)))$$