

l66_xreal_1

(TMWv2ydBKUVDbwGYMMxKsg7HnM5Kzpm9Cps)

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Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k7_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $v3_xxreal_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $np_0 : \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (\forall X1.(v1_xcmplx_0 X1) \Rightarrow ((X0 \neq k6_numbers) \Rightarrow (k3_xcmplx_0 (k7_xcmplx_0 X1 X0) X0 = X1))) \quad (1)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\neg(\neg r1_xxreal_0 X0 X1) \wedge ((\neg v2_xxreal_0 X0) \wedge (\neg v3_xxreal_0 X1)))) \quad (2)$$

Assume the following.

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

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\neg(r1_xxreal_0 X0 X1) \wedge ((\neg v2_xxreal_0 X1) \wedge (v2_xxreal_0 X0)))) \quad (4)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\neg(r1_xxreal_0 X0 X1) \wedge ((\neg v3_xxreal_0 X0) \wedge (v3_xxreal_0 X1)))) \quad (5)$$

Assume the following.

$$v1_xboole_0 np_0 \quad (6)$$

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.

$$\begin{aligned} & \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xxreal_0 X2) \Rightarrow (\neg(\neg r1_xxreal_0 X0 \ k6_numbers) \wedge ((\neg r1_xxreal_0 \\ & X2 \ X1) \wedge (r1_xxreal_0 (k3_xcmplx_0 X2 \ X0) (k3_xcmplx_0 X1 \ X0)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (v1_xxreal_0 (k7_xcmplx_0 X0 \ X1)) \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v2_xxreal_0 X0) \wedge (v1_xxreal_0 X0)) \wedge \\ & ((\neg v2_xxreal_0 X1) \wedge (v1_xxreal_0 X1))) \Rightarrow (\neg v3_xxreal_0 (k7_xcmplx_0 \\ & X0 \ X1)) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v3_xxreal_0 X0) \wedge (v1_xxreal_0 X0)) \wedge \\ & ((\neg v3_xxreal_0 X1) \wedge (v1_xxreal_0 X1))) \Rightarrow (\neg v3_xxreal_0 (k7_xcmplx_0 \\ & X0 \ X1)) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v3_xxreal_0 X0) \wedge (v1_xxreal_0 X0)) \wedge \\ & ((\neg v2_xxreal_0 X1) \wedge (v1_xxreal_0 X1))) \Rightarrow (\neg v2_xxreal_0 (k7_xcmplx_0 \\ & X1 \ X0)) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v3_xxreal_0 X0) \wedge (v1_xxreal_0 X0)) \wedge \\ & ((\neg v2_xxreal_0 X1) \wedge (v1_xxreal_0 X1))) \Rightarrow (\neg v2_xxreal_0 (k7_xcmplx_0 \\ & X0 \ X1)) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (v7_ordinal1 X0) \quad (15)$$

Assume the following.

$$\forall X0.((v1_xxreal_0 X0) \wedge (v3_xxreal_0 X0)) \Rightarrow ((\neg v1_xboole_0 X0) \wedge ((v1_xxreal_0 X0) \wedge (\neg v2_xxreal_0 X0))) \quad (16)$$

Assume the following.

$$\forall X0.(v1_xxreal_0 X0) \Rightarrow (v1_xxreal_0 X0) \quad (17)$$

Assume the following.

$$\forall X0.((v1_xxreal_0 X0) \wedge (v2_xxreal_0 X0)) \Rightarrow ((\neg v1_xboole_0 X0) \wedge ((v1_xxreal_0 X0) \wedge (\neg v3_xxreal_0 X0))) \quad (18)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (v1_xcmplx_0 X0) \quad (19)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (v1_xreal_0 X0) \quad (20)$$

Theorem 1

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2.(v1_xreal_0 X2) \Rightarrow (((r1_xxreal_0 k6_numbers X0) \wedge (r1_xxreal_0 X1 X2)) \Rightarrow (r1_xxreal_0 (k7_xcmplx_0 X1 X0) (k7_xcmplx_0 X2 X0))))))$$