

t4_rfunct_3

(TMQ8ZFZQtYeAKeWyxV9vPQ4inVuv1DCBPTW)

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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 $k1_rfunct_3 : \iota \Rightarrow \iota$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_0 : \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $v3_xxreal_0 : \iota \Rightarrow o$ be given. Let $k4_xxreal_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\neg(\neg \\ r1_xxreal_0 k6_numbers (k3_xcmplx_0 X0 X1)) \wedge ((\neg(\neg r1_xxreal_0 \\ X0 k6_numbers) \wedge (\neg r1_xxreal_0 k6_numbers X1)) \wedge (\neg(\neg r1_xxreal_0 \\ k6_numbers X0) \wedge (\neg r1_xxreal_0 X1 k6_numbers)))))) \quad (2) \end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (((r1_xxreal_0 \\ k6_numbers X0) \wedge (r1_xxreal_0 X1 k6_numbers)) \Rightarrow (r1_xxreal_0 (k3_xcmplx_0 \\ X0 X1) k6_numbers))) \quad (3) \end{aligned}$$

Assume the following.

$$(m2_subset_1 np_0 k1_numbers k5_numbers) \wedge ((m1_subset_1 np_0 \\ k5_numbers) \wedge (m1_subset_1 np_0 k1_numbers)) \quad (4)$$

Assume the following.

$$v1_xboole_0 np_0 \quad (5)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0)\wedge(m1_subset_1 X1 k1_numbers))\Rightarrow (k4_real_1 X0 X1 = k3_xcmplx_0 X0 X1) \quad (7)$$

Assume the following.

$$\exists X0.(v1_xboole_0 X0)\wedge((v1_xcmplx_0 X0)\wedge((v1_xxreal_0 X0)\wedge(v1_xreal_0 X0))) \quad (8)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(\forall X1.((\neg v2_xxreal_0 X1)\wedge(\neg v3_xxreal_0 X1)\wedge(v1_xreal_0 X1)))\Rightarrow(k6_numbers = k3_xcmplx_0 X1 X0) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0)\wedge(v1_xreal_0 X1))\Rightarrow(v1_xreal_0 (k3_xcmplx_0 X0 X1)) \quad (10)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(m1_subset_1 (k1_rfunct_3 X0) k1_numbers) \quad (11)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(k1_rfunct_3 X0 = k4_xxreal_0 X0 k6_numbers) \quad (12)$$

Assume the following.

$$\forall X0.(v1_xxreal_0 X0)\Rightarrow(\forall X1.(v1_xxreal_0 X1)\Rightarrow(((r1_xxreal_0 X1 X0)\Rightarrow(k4_xxreal_0 X0 X1 = X0))\wedge((\neg r1_xxreal_0 X1 X0)\Rightarrow(k4_xxreal_0 X0 X1 = X1)))) \quad (13)$$

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.

$$\forall X0.\forall X1.((v1_xxreal_0 X0)\wedge(v1_xxreal_0 X1))\Rightarrow(k4_xxreal_0 X0 X1 = k4_xxreal_0 X1 X0) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0)\wedge(v1_xcmplx_0 X1))\Rightarrow(k3_xcmplx_0 X0 X1 = k3_xcmplx_0 X1 X0) \quad (16)$$

Assume the following.

$$\forall X0.((v1_xxreal_0 X0) \wedge (v3_xxreal_0 X0)) \Rightarrow ((\neg v1_xboole_0 X0) \wedge ((v1_xxreal_0 X0) \wedge (\neg v2_xxreal_0 X0))) \quad (17)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (v1_xxreal_0 X0) \quad (18)$$

Assume the following.

$$\forall X0.((v1_xxreal_0 X0) \wedge (v2_xxreal_0 X0)) \Rightarrow ((\neg v1_xboole_0 X0) \wedge ((v1_xxreal_0 X0) \wedge (\neg v3_xxreal_0 X0))) \quad (19)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (v1_xcmplx_0 X0) \quad (20)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xreal_0 X0) \quad (21)$$

Theorem 1

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((r1_xxreal_0 k6_numbers X0) \Rightarrow (k1_rfunct_3 (k3_xcmplx_0 X0 X1) = k4_real_1 X0 (k1_rfunct_3 X1))))$$