

t3_series_5 (TM-
RKsg3S7jbSmuVj3UMoYPTQ2o9PW4zMM9S)

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Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k13_complex1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k7_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $v3_xxreal_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xreal_0 X2) \Rightarrow (\forall X3.(v1_xreal_0 X3) \Rightarrow (\neg(\neg r1_xxreal_0 \\ & X1 X0) \wedge ((r1_xxreal_0 X2 X3) \wedge (r1_xxreal_0 (k2_xcmplx_0 X1 X3) (\\ & k2_xcmplx_0 X0 X2)))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\neg(v1_xboole_0 X0) \wedge ((X0 \neq X1) \wedge (v1_xboole_0 X1)) \quad (2)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (((r1_xxreal_0 X0 X1) \wedge (v2_xxreal_0 X0)) \Rightarrow (v2_xxreal_0 X1))) \quad (3)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\neg(\neg r1_xxreal_0 X0 k6_numbers) \wedge ((\neg r1_xxreal_0 X1 X0) \wedge (r1_xxreal_0 (k7_xcmplx_0 X1 X0) np_1)))) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (r1_xxreal_0 X0 X0) \quad (5)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0)\wedge(v1_xcmplx_0 X1))\Rightarrow(k13_complex1 X0 X1 = k7_xcmplx_0 X0 X1) \quad (7)$$

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.

$$\forall X0.\forall X1.((v1_xreal_0 X0)\wedge(v1_xreal_0 X1))\Rightarrow(v1_xreal_0 (k2_xcmplx_0 X0 X1)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0)\wedge(v1_xcmplx_0 X1))\Rightarrow(v1_xcmplx_0 (k2_xcmplx_0 X0 X1)) \quad (10)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(((v2_xxreal_0 X0)\wedge(v1_xreal_0 X0))\wedge(\neg v3_xxreal_0 X1)\wedge(v1_xreal_0 X1))\Rightarrow(v2_xxreal_0 (k2_xcmplx_0 X1 X0)) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0)\wedge(v1_xcmplx_0 X1))\Rightarrow(k2_xcmplx_0 X0 X1 = k2_xcmplx_0 X1 X0) \quad (13)$$

Assume the following.

$$\forall X0.((v1_xxreal_0 X0)\wedge(v3_xxreal_0 X0))\Rightarrow((\neg v1_xboole_0 X0)\wedge((v1_xxreal_0 X0)\wedge(\neg v2_xxreal_0 X0))) \quad (14)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(v1_xxreal_0 X0) \quad (15)$$

Assume the following.

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

Assume the following.

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

Theorem 1

$$\forall X0.((v1_xreal_0 X0)\wedge(v2_xxreal_0 X0))\Rightarrow(\forall X1.((v1_xreal_0 X1)\wedge(v2_xxreal_0 X1))\Rightarrow(\forall X2.((v1_xreal_0 X2)\wedge(v2_xxreal_0 X2))\Rightarrow(\neg(\neg r1_xxreal_0 X1 X0)\wedge(r1_xxreal_0 (k13_complex1 (k2_xcmplx_0 X1 X2) (k2_xcmplx_0 X0 X2)) np_{-1}))))))$$