

t35_rat_1 (TMRtSyKKBmeTQdnxzTmrd- MiQzT3bt1Kkhr2)

October 27, 2020

Let $v1_rat_1 : \iota \Rightarrow o$ be given. Let $r1_xreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $k1_rat_1 : \iota \Rightarrow \iota$ be given. Let $k2_rat_1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $np_0 : \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k8_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xreal_0 X2) \Rightarrow (\neg(\neg r1_xreal_0 X0 k6_numbers) \wedge ((\neg r1_xreal_0 \\ & X2 X1) \wedge (r1_xreal_0 (k3_xcmplx_0 X2 X0) (k3_xcmplx_0 X1 X0)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k3_xcmplx_0 np_1 X0 = X0) \quad (3)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((r1_xreal_0 X0 X1) \wedge (r1_xreal_0 X1 X0)) \Rightarrow (X0 = X1)) \quad (4)$$

Assume the following.

$$\forall X0.(v1_rat_1 X0) \Rightarrow ((v1_int_1 X0) \Rightarrow ((k1_rat_1 X0 = np_1) \wedge (k2_rat_1 X0 = X0))) \quad (5)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow ((\neg r1_xreal_0 (k1_nat_1 X1 np_1) X0) \Leftrightarrow (r1_xreal_0 X0 X1))) \quad (6)$$

Assume the following.

$$\forall X0.(v1_rat_1 X0) \Rightarrow (r1_xreal_0 \ np_1 (k1_rat_1 X0)) \quad (7)$$

Assume the following.

$$\begin{aligned} & ((v2_xreal_0 \ np_1) \wedge (m2_subset_1 \ np_1 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_1 \ k5_numbers) \wedge (m1_subset_1 \ np_1 \ k1_numbers)) \end{aligned} \quad (8)$$

Assume the following.

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

Assume the following.

$$k2_xcmplx_0 \ np_0 \ np_1 = np_1 \quad (10)$$

Assume the following.

$$r1_xreal_0 \ np_1 \ np_1 \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 X0 \ k1_numbers) \wedge (v1_xreal_0 X1)) \Rightarrow (k8_real_1 X0 X1 = k3_xcmplx_0 X0 X1) \quad (13)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (14)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v7_ordinal1 X0) \wedge (m1_subset_1 X1 \ k5_numbers)) \Rightarrow \\ & (k1_nat_1 X0 X1 = k2_xcmplx_0 X0 X1) \end{aligned} \quad (16)$$

Assume the following.

$$(\neg v1_xboole_0 \ k4_ordinal1) \wedge (v3_ordinal1 \ k4_ordinal1) \quad (17)$$

Assume the following.

$$\neg v1_xboole_0 \ k1_numbers \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge (m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Rightarrow(m1_subset_1 X2 X0)) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k1_numbers)\wedge(v1_xreal_0 X1))\Rightarrow(m1_subset_1 (k8_real_1 X0 X1) k1_numbers) \quad (20)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (21)$$

Assume the following.

$$\forall X0.(v1_rat_1 X0)\Rightarrow(v1_int_1 (k2_rat_1 X0)) \quad (22)$$

Assume the following.

$$\forall X0.(v1_rat_1 X0)\Rightarrow(m2_subset_1 (k1_rat_1 X0) k1_numbers k5_numbers) \quad (23)$$

Assume the following.

$$\forall X0.(v1_rat_1 X0)\Rightarrow(k2_rat_1 X0 = k8_real_1 (k1_rat_1 X0) X0) \quad (24)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0)\wedge(v1_xxreal_0 X1))\Rightarrow((r1_xxreal_0 X0 X1)\vee(r1_xxreal_0 X1 X0)) \quad (25)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k1_numbers)\wedge(v1_xreal_0 X1))\Rightarrow(k8_real_1 X0 X1 = k8_real_1 X1 X0) \quad (26)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1)\Rightarrow(v7_ordinal1 X0) \quad (27)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Rightarrow(v7_ordinal1 X0) \quad (28)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(v1_xxreal_0 X0) \quad (29)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(v1_xcmplx_0 X0) \quad (30)$$

Assume the following.

$$\forall X0.(v1_int_1 X0) \Rightarrow (v1_xreal_0 X0) \quad (31)$$

Assume the following.

$$\forall X0.(v1_int_1 X0) \Rightarrow (v1_rat_1 X0) \quad (32)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (v1_int_1 X0) \quad (33)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xreal_0 X0) \quad (34)$$

Assume the following.

$$\forall X0.(v1_rat_1 X0) \Rightarrow (v1_xreal_0 X0) \quad (35)$$

Theorem 1

$$\begin{aligned} \forall X0.(v1_rat_1 X0) \Rightarrow & ((\neg(\neg r1_xxreal_0 np_1 X0) \wedge (r1_xxreal_0 \\ & (k1_rat_1 X0) (k2_rat_1 X0))) \wedge (\neg(\neg r1_xxreal_0 (k1_rat_1 X0) (\\ & k2_rat_1 X0)) \wedge (r1_xxreal_0 np_1 X0))) \end{aligned}$$