

t37_rat_1

(TMc7K3AHy4HkA1KZQbsEhSH91p8FnYrkvny)

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Let $v1_rat_1 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k2_rat_1 : \iota \Rightarrow \iota$ 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 $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_rat_1 : \iota \Rightarrow \iota$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ 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 $k4_ordinal1 : \iota$ be given. Let $k6_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow ((X0 \neq k6_numbers) \Rightarrow (k7_xcmplx_0 X0 X0 = np_1)) \quad (1)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k3_xcmplx_0 np_1 X0 = X0) \quad (2)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (r1_xxreal_0 k6_numbers X0) \quad (3)$$

Assume the following.

$$\forall X0.(v1_rat_1 X0) \Rightarrow (((k2_rat_1 X0 = X0) \vee (k1_rat_1 X0 = np_1)) \Rightarrow (v1_int_1 X0)) \quad (4)$$

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.

$$\forall X0.(v1_rat_1 X0) \Rightarrow ((X0 \neq k6_numbers) \Rightarrow (k1_rat_1 X0 = k7_xcmplx_0 (k2_rat_1 X0) X0)) \quad (6)$$

Assume the following.

$$\forall X0.(v1_rat_1 X0) \Rightarrow ((k2_rat_1 X0 = k6_numbers) \Leftrightarrow (X0 = k6_numbers)) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\neg(\neg \\ r1_xxreal_0 (k7_xcmplx_0 X0 X1) k6_numbers) \wedge (\neg(\neg r1_xxreal_0 \\ X1 k6_numbers) \wedge (\neg r1_xxreal_0 X0 k6_numbers)) \wedge (\neg(\neg r1_xxreal_0 \\ k6_numbers X1) \wedge (\neg r1_xxreal_0 k6_numbers X0)))))) \quad (8) \end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\neg(\neg \\ r1_xxreal_0 k6_numbers X0) \wedge (\neg r1_xxreal_0 X1 k6_numbers) \wedge (r1_xxreal_0 \\ k6_numbers (k7_xcmplx_0 X0 X1)))))) \quad (9) \end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (((r1_xxreal_0 \\ X0 k6_numbers) \wedge (r1_xxreal_0 k6_numbers X0)) \Rightarrow (k6_numbers = k3_xcmplx_0 \\ X0 X1))) \quad (10) \end{aligned}$$

Assume the following.

$$\forall X0.(v1_rat_1 X0) \Rightarrow (\neg r1_xxreal_0 (k1_rat_1 X0) k6_numbers) \quad (11)$$

Assume the following.

$$\begin{aligned} ((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge \\ ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \quad (12) \end{aligned}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((v1_rat_1 X0) \wedge (v1_rat_1 X1)) \Rightarrow (v1_rat_1 \\ (k7_xcmplx_0 X0 X1)) \quad (14)$$

Assume the following.

$$\forall X0.(v1_rat_1 X0) \Rightarrow (v1_int_1 (k2_rat_1 X0)) \quad (15)$$

Assume the following.

$$\forall X0.(v1_rat_1 X0) \Rightarrow (m2_subset_1 (k1_rat_1 X0) k1_numbers \\ k5_numbers) \quad (16)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_rat_1 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 k1_numbers \\ k5_numbers) \Rightarrow ((X1 = k1_rat_1 X0) \Leftrightarrow ((X1 \neq k6_numbers) \wedge ((\exists X2. \\ (v1_int_1 X2) \wedge (X0 = k6_real_1 X2 X1)) \wedge (\forall X2.(v1_int_1 X2) \Rightarrow \\ (\forall X3.(m2_subset_1 X3 k1_numbers k5_numbers) \Rightarrow ((X0 = k6_real_1 \\ X2 X3) \Rightarrow ((X3 = k6_numbers) \vee (r1_xxreal_0 X1 X3)))))))))) \end{aligned} \quad (17)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (18)$$

Assume the following.

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

Assume the following.

$$\forall X0.(v1_int_1 X0) \Rightarrow (v1_xreal_0 X0) \quad (20)$$

Assume the following.

$$\forall X0.(v1_int_1 X0) \Rightarrow (v1_rat_1 X0) \quad (21)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xreal_0 X0) \quad (22)$$

Assume the following.

$$\forall X0.(v1_rat_1 X0) \Rightarrow (v1_xreal_0 X0) \quad (23)$$

Theorem 1

$$\begin{aligned} \forall X0.(v1_rat_1 X0) \Rightarrow ((\neg(\neg(r1_xxreal_0 k6_numbers X0) \wedge (r1_xxreal_0 \\ k6_numbers (k2_rat_1 X0))) \wedge (\neg(\neg(r1_xxreal_0 k6_numbers (k2_rat_1 \\ X0) \wedge (r1_xxreal_0 k6_numbers X0)))))) \end{aligned}$$