

t32_rat_1 (TMVaTd-
wiVdYc3aBWpyiBTYk2zLdRBVxm1gQ)

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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 $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k2_rat_1 : \iota \Rightarrow \iota$ be given. Let $k1_rat_1 : \iota \Rightarrow \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ 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 $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.(v1_rat_1 X0) \Rightarrow (&(\neg(\neg r1_xxreal_0 (k1_real_1 np_1) \\ &X0) \wedge (r1_xxreal_0 (k1_real_1 (k1_rat_1 X0)) (k2_rat_1 X0))) \wedge (\\ &\neg(\neg r1_xxreal_0 (k1_real_1 (k1_rat_1 X0)) (k2_rat_1 X0)) \wedge (r1_xxreal_0 \\ &(k1_real_1 np_1) X0))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.(v1_rat_1 X0) \Rightarrow ((k2_rat_1 X0 = k1_real_1 (k1_rat_1 X0)) \Leftrightarrow (X0 = k1_real_1 np_1)) \tag{2}$$

Assume the following.

$$\forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow ((r1_xxreal_0 X0 X1) \wedge (r1_xxreal_0 X1 X0)) \Rightarrow (X0 = X1)) \tag{3}$$

Assume the following.

$$\begin{aligned} ((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge \\ ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (r1_xxreal_0 X0 X0) \tag{5}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (6)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (k1_real_1 X0 = k4_xcmplx_0 X0) \quad (7)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \quad (8)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow ((v1_xcmplx_0 (k4_xcmplx_0 X0)) \wedge (v1_xreal_0 (k4_xcmplx_0 X0))) \quad (9)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 X2 X0 X1) \Rightarrow (m1_subset_1 X2 X0)) \quad (11)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (12)$$

Assume the following.

$$\forall X0.(v1_rat_1 X0) \Rightarrow (v1_int_1 (k2_rat_1 X0)) \quad (13)$$

Assume the following.

$$\forall X0.(v1_rat_1 X0) \Rightarrow (m2_subset_1 (k1_rat_1 X0) k1_numbers k5_numbers) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow ((r1_xxreal_0 X0 X1) \vee (r1_xxreal_0 X1 X0)) \quad (15)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (16)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (v1_xxreal_0 X0) \quad (17)$$

Assume the following.

$$\forall X0.(v1_int_1 X0) \Rightarrow (v1_xreal_0 X0) \quad (18)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (v1_xreal_0 X0) \quad (19)$$

Assume the following.

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

Assume the following.

$$\forall X0.(v1_rat_1 X0) \Rightarrow (v1_xreal_0 X0) \quad (21)$$

Theorem 1

$$\forall X0.(v1_rat_1 X0) \Rightarrow ((r1_xxreal_0 X0 \ (k1_real_1 \ np_1)) \Leftrightarrow (r1_xxreal_0 \ (k2_rat_1 X0) \ (k1_real_1 \ (k1_rat_1 X0))))$$