

t24_rat_1

(TMXEe35n5TaWgv2hop3jYpdYFRTJq6dBKN8)

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Let $v1_rat_1 : \iota \Rightarrow o$ be given. Let $k2_rat_1 : \iota \Rightarrow \iota$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $k1_rat_1 : \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $np_2 : \iota$ 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 $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (\forall X1.(v1_xcmplx_0 X1) \Rightarrow ((k3_xcmplx_0 X0 X1 = np_1) \Rightarrow (X0 = k7_xcmplx_0 np_1 X1))) \quad (1)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow ((X0 \neq k6_numbers) \Rightarrow (k7_xcmplx_0 X0 X0 = np_1)) \quad (2)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k7_xcmplx_0 k6_numbers X0 = k6_numbers) \quad (3)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k7_xcmplx_0 np_1 (k7_xcmplx_0 np_1 X0) = X0) \quad (4)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (\forall X1.(v1_xcmplx_0 X1) \Rightarrow ((k7_xcmplx_0 X0 X1 \neq k6_numbers) \Rightarrow (X1 = k7_xcmplx_0 X0 (k7_xcmplx_0 X0 X1)))) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xcmplx_0 X0) \Rightarrow (\forall X1.(v1_xcmplx_0 X1) \Rightarrow (\forall X2. \\ (v1_xcmplx_0 X2) \Rightarrow (k7_xcmplx_0 (k7_xcmplx_0 X0 X1) X2 = k7_xcmplx_0 \\ (k7_xcmplx_0 X0 X2) X1))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (7)$$

Assume the following.

$$\forall X0.(v1_rat_1 X0) \Rightarrow ((k2_rat_1 X0 = X0) \Leftrightarrow (k1_rat_1 X0 = np_1)) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xcmplx_0 X0) \Rightarrow (\forall X1.(v1_xcmplx_0 X1) \Rightarrow (k7_xcmplx_0 \\ X0 (k4_xcmplx_0 X1) = k4_xcmplx_0 (k7_xcmplx_0 X0 X1))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_rat_1 X0) \Rightarrow ((v1_int_1 X0) \Rightarrow ((k1_rat_1 X0 = np_1) \wedge \\ (k2_rat_1 X0 = X0))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_rat_1 X0) \Rightarrow ((X0 \neq k6_numbers) \Rightarrow (k1_rat_1 X0 = k7_xcmplx_0 \\ (k2_rat_1 X0) X0)) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.(v1_rat_1 X0) \Rightarrow ((k2_rat_1 X0 = k6_numbers) \Leftrightarrow (X0 = k6_numbers)) \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xcmplx_0 X0) \Rightarrow ((k4_xcmplx_0 X0 = k6_numbers) \Rightarrow (\\ X0 = k6_numbers)) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xcmplx_0 X0) \Rightarrow (\forall X1.(v1_xcmplx_0 X1) \Rightarrow (k7_xcmplx_0 \\ X0 (k7_xcmplx_0 np_1 X1) = k3_xcmplx_0 X0 X1)) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} ((v2_xxreal_0 np_2) \wedge (m2_subset_1 np_2 k1_numbers k5_numbers)) \wedge \\ ((m1_subset_1 np_2 k5_numbers) \wedge (m1_subset_1 np_2 k1_numbers)) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xcmplx_0 X0) \Rightarrow (k3_xcmplx_0 X0 (k4_xcmplx_0 np_1) = \\ k4_xcmplx_0 X0) \end{aligned} \quad (16)$$

Assume the following.

$$k7_xcmplx_0 \ np_1 \ (k4_xcmplx_0 \ np_1) = k4_xcmplx_0 \ np_1 \quad (17)$$

Assume the following.

$$k7_xcmplx_0 \ np_1 \ np_1 = np_1 \quad (18)$$

Assume the following.

$$\forall X0.(m1_subset_1 \ X0 \ k1_numbers) \Rightarrow (k1_real_1 \ X0 = k4_xcmplx_0 \ X0) \quad (19)$$

Assume the following.

$$\exists X0.(m1_subset_1 \ X0 \ k1_numbers) \wedge ((v1_xreal_0 \ X0) \wedge ((v1_xcmplx_0 \ X0) \wedge ((v1_xreal_0 \ X0) \wedge (v1_int_1 \ X0)))) \quad (20)$$

Assume the following.

$$k4_xcmplx_0 \ k6_numbers = k6_numbers \quad (21)$$

Assume the following.

$$m1_subset_1 \ np_1 \ k1_numbers \quad (22)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 \ X0) \Rightarrow (k4_xcmplx_0 \ (k4_xcmplx_0 \ X0) = X0) \quad (23)$$

Assume the following.

$$\forall X0.(m1_subset_1 \ X0 \ k1_numbers) \Rightarrow (k1_real_1 \ (k1_real_1 \ X0) = X0) \quad (24)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 \ X0) \wedge (v1_xreal_0 \ X1)) \Rightarrow (v1_xreal_0 \ (k7_xcmplx_0 \ X0 \ X1)) \quad (25)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 \ X0) \wedge (v1_xcmplx_0 \ X1)) \Rightarrow (v1_xcmplx_0 \ (k7_xcmplx_0 \ X0 \ X1)) \quad (26)$$

Assume the following.

$$\forall X0.(v1_xreal_0 \ X0) \Rightarrow ((v1_xcmplx_0 \ (k4_xcmplx_0 \ X0)) \wedge (v1_xreal_0 \ (k4_xcmplx_0 \ X0))) \quad (27)$$

Assume the following.

$$\forall X0.(v1_int_1 \ X0) \Rightarrow ((v1_xcmplx_0 \ (k4_xcmplx_0 \ X0)) \wedge (v1_int_1 \ (k4_xcmplx_0 \ X0))) \quad (28)$$

Assume the following.

$$\forall X0.\forall X1.((v1_int_1 X0)\wedge(v1_int_1 X1))\Rightarrow(v1_int_1 (k2_xcmplx_0 X0 X1)) \quad (29)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0)\Rightarrow(v1_xcmplx_0 (k4_xcmplx_0 X0)) \quad (30)$$

Assume the following.

$$\forall X0.(v1_rat_1 X0)\Rightarrow(v1_int_1 (k2_rat_1 X0)) \quad (31)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(m1_subset_1 (k1_real_1 X0) k1_numbers) \quad (32)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0)\Rightarrow(\forall X1.(v1_xcmplx_0 X1)\Rightarrow((X1 = k4_xcmplx_0 X0)\Leftrightarrow(k2_xcmplx_0 X0 X1 = k6_numbers))) \quad (33)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Leftrightarrow(X0 \in k1_numbers) \quad (34)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(v1_xcmplx_0 X0) \quad (35)$$

Assume the following.

$$\forall X0.(v1_int_1 X0)\Rightarrow(v1_xreal_0 X0) \quad (36)$$

Assume the following.

$$\forall X0.(v1_int_1 X0)\Rightarrow(v1_rat_1 X0) \quad (37)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(v1_xreal_0 X0) \quad (38)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(v1_xcmplx_0 X0) \quad (39)$$

Assume the following.

$$\forall X0.(v1_rat_1 X0)\Rightarrow(v1_xreal_0 X0) \quad (40)$$

Theorem 1

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