

l13_gr_cy_3
(TMNDA35qNTbpgAMkiR8rf6oNt6q89n5JDCK)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $r1_xreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_2 : \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $np_5 : \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $v2_xreal_0 : \iota \Rightarrow o$ be given. Let $np_4 : \iota$ 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 $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v5_finset_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xreal_0 X2) \Rightarrow (\forall X3.(v1_xreal_0 X3) \Rightarrow (\neg(\neg r1_xreal_0 \\ & X1 X0) \wedge ((r1_xreal_0 X2 X3) \wedge (r1_xreal_0 (k2_xcmplx_0 X1 X3) (\\ & k2_xcmplx_0 X0 X2))))))) \end{aligned} \quad (1)$$

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.

$$m1_subset_1 k1_xboole_0 k4_ordinal1 \quad (3)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k2_xcmplx_0 X0 k6_numbers = X0) \quad (4)$$

Assume the following.

$$\begin{aligned} & ((v2_xreal_0 np_4) \wedge (m2_subset_1 np_4 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_4 k5_numbers) \wedge (m1_subset_1 np_4 k1_numbers)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_2) \wedge (m2_subset_1 \ np_2 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_2 \ k5_numbers) \wedge (m1_subset_1 \ np_2 \ k1_numbers)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_1) \wedge (m2_subset_1 \ np_1 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_1 \ k5_numbers) \wedge (m1_subset_1 \ np_1 \ k1_numbers)) \end{aligned} \quad (7)$$

Assume the following.

$$k3_xcmplx_0 \ np_2 \ np_2 = np_4 \quad (8)$$

Assume the following.

$$k2_xcmplx_0 \ np_4 \ np_1 = np_5 \quad (9)$$

Assume the following.

$$k2_xcmplx_0 \ np_2 \ np_2 = np_4 \quad (10)$$

Assume the following.

$$r1_xxreal_0 \ np_4 \ np_4 \quad (11)$$

Assume the following.

$$\neg r1_xxreal_0 \ np_4 \ np_2 \quad (12)$$

Assume the following.

$$r1_xxreal_0 \ np_1 \ np_1 \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 \ X0) \wedge ((\neg v1_xboole_0 \ X1) \wedge \\ & (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 \ X0 \ X1) \Leftrightarrow (m1_subset_1 \ X2 \ X1)) \end{aligned} \quad (14)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (15)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((m1_subset_1 \ X0 \ k5_numbers) \wedge (v7_ordinal1 \\ & X1)) \Rightarrow (k4_nat_1 \ X0 \ X1 = k3_xcmplx_0 \ X0 \ X1) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((m1_subset_1 \ X0 \ k5_numbers) \wedge (v7_ordinal1 \\ & X1)) \Rightarrow (k2_nat_1 \ X0 \ X1 = k2_xcmplx_0 \ X0 \ X1) \end{aligned} \quad (18)$$

Assume the following.

$$\neg v1_finset_1 k4_ordinal1 \quad (19)$$

Assume the following.

$$\forall X0.(v1_finset_1 X0) \Rightarrow (v5_finset_1 (k1_zfmisc_1 X0)) \quad (20)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k5_numbers) \wedge (v7_ordinal1 X1)) \Rightarrow (m2_subset_1 (k4_nat_1 X0 X1) k1_numbers k5_numbers) \quad (22)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0) \wedge (v1_xcmplx_0 X1)) \Rightarrow (k3_xcmplx_0 X0 X1 = k3_xcmplx_0 X1 X0) \quad (23)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (24)$$

Assume the following.

$$\forall X0.(v5_finset_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow (v1_finset_1 X1)) \quad (25)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (v1_xcmplx_0 X0) \quad (26)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (v1_xreal_0 X0) \quad (27)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xreal_0 X0) \quad (28)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (v1_finset_1 X0) \quad (29)$$

Theorem 1

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (\neg(\neg r1_xxreal_0 X0 np_2) \wedge (r1_xxreal_0 (k2_nat_1 (k4_nat_1 np_2 X0) np_1) np_5))$$