

t58_chain_1 (TMcmsyAxXNvbwghJCKD- bKYzB1aabhwVz59e)

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Let $v1_xboole_0 : \iota \Rightarrow o$ 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 $m1_chain_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k4_chain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_chain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_chain_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski X0 X1) \Rightarrow (k3_xboole_0 X0 X1 = X0) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.k4_xboole_0 X0 X1 = k5_xboole_0 X0 (k3_xboole_0 X0 X1) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X0 k5_numbers)) \wedge ((m1_chain_1 X1 X0) \wedge ((m1_subset_1 X2 k5_numbers) \wedge ((m1_subset_1 X3 (k1_zfmisc_1 (k4_chain_1 X0 X1 X2)))) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k4_chain_1 X0 X1 X2)))))) \Rightarrow (k7_chain_1 X0 X1 X2 X3 X4 = k5_xboole_0 X3 X4) \quad (5)$$

Assume the following.

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

Assume the following.

$$\neg v1_finset_1 k4_ordinal1 \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v1_xboole_0 X0)\wedge(m1_subset_1 X0 k5_numbers))\wedge \\ (m1_chain_1 X1 X0))\Rightarrow(m1_subset_1 (k6_chain_1 X0 X1) (k1_zfmisc_1 \\ (k4_chain_1 X0 X1 X0))) \end{aligned} \quad (8)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v1_xboole_0 X0)\wedge(m2_subset_1 X0 k1_numbers k5_numbers))\Rightarrow \\ (\forall X1.(m1_chain_1 X1 X0)\Rightarrow(k6_chain_1 X0 X1 = k4_chain_1 X0 \\ X1 X0)) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(k3_subset_1 \\ X0 X1 = k4_xboole_0 X0 X1) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.k5_xboole_0 X0 X1 = k5_xboole_0 X1 X0 \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \quad (13)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ X0))\Rightarrow(v1_xboole_0 X1)) \quad (14)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Rightarrow(v1_finset_1 X0) \quad (15)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v1_xboole_0 X0)\wedge(m2_subset_1 X0 k1_numbers k5_numbers))\Rightarrow \\ (\forall X1.(m1_chain_1 X1 X0)\Rightarrow(\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ (k4_chain_1 X0 X1 X0)))\Rightarrow(k3_subset_1 (k4_chain_1 X0 X1 X0) X2 = k7_chain_1 \\ X0 X1 X0 X2 (k6_chain_1 X0 X1)))) \end{aligned}$$