

t51_moebius1 (TMZPsMKBcoD- BvJ9HTi5ekkXAe9B8xWNiepg)

October 27, 2020

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 $v1_finset_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_xreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $r1_nat_d : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_moebius1 : \iota \Rightarrow o$ be given. Let $k4_moebius1 : \iota \Rightarrow \iota$ be given. Let $k16_pre_poly : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k9_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k15_pre_poly : \iota \Rightarrow \iota$ be given. Let $k14_pre_poly : \iota \Rightarrow \iota$ be given. Let $v6_membered : \iota \Rightarrow o$ be given. Let $k1_moebius1 : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k13_pre_poly : \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_moebius1 : \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v4_funct_1 : \iota \Rightarrow o$ be given. Let $v4_valued_0 : \iota \Rightarrow o$ be given. Let $v2_pre_poly : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. k1_funct_1 (k16_pre_poly X0) X1 = k6_numbers \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (\neg(\neg r1_xboole_0 X0 X1) \wedge (\forall X2. \neg(X2 \in X0) \wedge (X2 \in X1))) \wedge (\neg(\exists X2. (X2 \in X0) \wedge (X2 \in X1)) \wedge (r1_xboole_0 X0 X1)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (4)$$

Assume the following.

$$\forall X0. k3_xboole_0 X0 k1_xboole_0 = k1_xboole_0 \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 X0))\Rightarrow(k9_subset_1 X0 X1 X2 = k3_xboole_0 X1 X2) \quad (6)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (7)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (8)$$

Assume the following.

$$\forall X0.k15_pre_poly X0 = k14_pre_poly X0 \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.k3_xboole_0 X0 X0 = X0 \quad (10)$$

Assume the following.

$$v6_membered k4_ordinal1 \quad (11)$$

Assume the following.

$$\forall X0.\neg v1_xboole_0 (k14_pre_poly X0) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Rightarrow(m1_subset_1 X2 X0)) \quad (13)$$

Assume the following.

$$m1_subset_1 k1_moebius1 (k1_zfmisc_1 k5_numbers) \quad (14)$$

Assume the following.

$$\forall X0.m2_subset_1 (k16_pre_poly X0) (k14_pre_poly X0) (k15_pre_poly X0) \quad (15)$$

Assume the following.

$$\forall X0.m1_subset_1 (k15_pre_poly X0) (k1_zfmisc_1 (k14_pre_poly X0)) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.(r1_xboole_0 X0 X1)\Leftrightarrow(k3_xboole_0 X0 X1 = k1_xboole_0) \quad (17)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.(X1 = k13_pre_poly X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (k1_funct_1 X0 X2 \neq k6_numbers))) \quad (18)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge \\ & ((v1_funct_1 X1) \wedge (v1_partfun1 X1 k5_numbers)))) \Rightarrow ((X1 = k4_moebius1 \\ & X0) \Leftrightarrow ((k13_pre_poly X1 = k9_subset_1 k5_numbers X0 k1_moebius1) \wedge \\ & (\forall X2.(m2_subset_1 X2 k1_numbers k5_numbers) \Rightarrow ((X2 \in k13_pre_poly \\ & X1) \Rightarrow (k1_funct_1 X1 X2 = k2_moebius1 X2)))) \end{aligned} \quad (19)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 k5_numbers)) \Rightarrow ((X0 = k1_moebius1) \Leftrightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow ((X1 \in X0) \Leftrightarrow (\neg v1_moebius1 X1)))) \quad (20)$$

Assume the following.

$$\forall X0. \forall X1. k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \quad (21)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (k15_pre_poly X0))) \Rightarrow (v4_funct_1 X1) \quad (22)$$

Assume the following.

$$\forall X0.(v4_funct_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow ((v1_relat_1 X1) \wedge (v1_funct_1 X1))) \quad (23)$$

Assume the following.

$$\forall X0.(v6_membered X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow (v7_ordinal1 X1)) \quad (24)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (k15_pre_poly X0)))) \Rightarrow (\forall X2.(m1_subset_1 X2 X1) \Rightarrow ((v1_partfun1 \\ & X2 X0) \wedge ((v4_valued_0 X2) \wedge (v2_pre_poly X2)))) \end{aligned} \quad (25)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (k15_pre_poly X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 X1) \Rightarrow (v4_relat_1 X2 X0)) \quad (26)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge (m2_subset_1 X0 k1_numbers k5_numbers)) \Rightarrow \\ & (\forall X1.((v1_finset_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 k5_numbers))) \Rightarrow \\ & ((X1 = ReplSep (toset (\lambda X2 : \iota.m2_subset_1 X2 k1_numbers k5_numbers)) \\ & (\lambda X2 : \iota.(\neg r1_xxreal_0 X2 k6_numbers) \wedge (r1_nat_d X2 X0) \wedge \\ & (v1_moebius1 X2))) (\lambda X2 : \iota.X2)) \Rightarrow (k4_moebius1 X1 = k16_pre_poly \\ & k5_numbers))) \end{aligned}$$