

t29_moebius1

(TMLQoxGoLjun2AyjS4Jgxxj6AzCtyQ9V7GKp)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_int_2 : \iota \Rightarrow o$ be given. Let $r1_nat_d : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_moebius1 : \iota \Rightarrow o$ 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 $r1_xreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k3_nat_d : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.((v7_ordinal1 X0) \wedge (v1_int_2 X0)) \Rightarrow (\forall X1.(v7_ordinal1 \\ X1) \Rightarrow (\forall X2.(v7_ordinal1 X2) \Rightarrow (((r1_nat_d X0 X1) \wedge (r1_nat_d \\ X2 X1)) \Rightarrow ((r1_nat_d X0 X2) \vee (r1_nat_d X2 (k3_nat_d X1 X0)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.((v7_ordinal1 X0) \wedge (v1_int_2 X0)) \Rightarrow (\forall X1.(v7_ordinal1 \\ X1) \Rightarrow (\forall X2.(v7_ordinal1 X2) \Rightarrow (((r1_nat_d X0 X1) \wedge (r1_nat_d \\ X2 (k3_nat_d X1 X0)) \Rightarrow ((v1_moebius1 X1) \vee ((r1_nat_d X2 X1) \wedge (\neg r1_nat_d \\ X0 X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\ X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (3)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (4)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (5)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \quad (6)$$

Assume the following.

$$\neg v1_xboole_0 \ k1_numbers \quad (7)$$

Assume the following.

$$m1_subset_1 \ k5_numbers \ (k1_zfmisc_1 \ k1_numbers) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski \ X0 \ X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow (X2 \in X1)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1) \Leftrightarrow ((r1_tarski \ X0 \ X1) \wedge (r1_tarski \ X1 \ X0)) \quad (10)$$

Assume the following.

$$\forall X0.(m1_subset_1 \ X0 \ k4_ordinal1) \Rightarrow (v7_ordinal1 \ X0) \quad (11)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v7_ordinal1 \ X0) \wedge (v1_int_2 \ X0)) \Rightarrow (\forall X1.(v7_ordinal1 \\ & X1) \Rightarrow ((r1_nat_d \ X0 \ X1) \Rightarrow ((v1_moebius1 \ X1) \vee (ReplSep \ (toiset \ (\lambda X2 : \\ & \iota.m2_subset_1 \ X2 \ k1_numbers \ k5_numbers)) \ (\lambda X2 : \iota.(\neg r1_xxreal_0 \\ & X2 \ k6_numbers) \wedge ((r1_nat_d \ X2 \ X1) \wedge (\neg r1_nat_d \ X0 \ X2)))) \ (\lambda X2 : \\ & \iota.X2) = ReplSep \ (toiset \ (\lambda X2 : \iota.m2_subset_1 \ X2 \ k1_numbers \\ & k5_numbers)) \ (\lambda X2 : \iota.(\neg r1_xxreal_0 \ X2 \ k6_numbers) \wedge (r1_nat_d \\ & X2 \ (k3_nat_d \ X1 \ X0)))) \ (\lambda X2 : \iota.X2)))) \end{aligned}$$