

t53_flang_2 (TMJxrnBKw- BCM1PkFSSN1Tzyrs8LsJBX96Pt)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k8_afinsq_1 : \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k5_afinsq_1 : \iota \Rightarrow \iota$ be given. Let $k1_flang_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_flang_1 : \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $np_1 : \iota$ be given. Let $k7_flang_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v3_xxreal_0 : \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_catalan2 : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_ordinal1 : \iota$ 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. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k8_afinsq_1 X1))) \Rightarrow (\forall X3. (v7_ordinal1 X3) \Rightarrow ((k5_afinsq_1 \\ & X0 \in k7_flang_1 X1 X2 X3) \Leftrightarrow ((k5_afinsq_1 X0 \in X2) \wedge (((k2_flang_1 X1 \in \\ & X2) \wedge (\neg r1_xxreal_0 X3 np_1)) \vee (X3 = np_1)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. (v1_xxreal_0 X0) \Rightarrow (\forall X1. (v1_xxreal_0 X1) \Rightarrow (\neg (\neg r1_xxreal_0 X0 X1) \wedge ((\neg v3_xxreal_0 X1) \wedge (\neg v2_xxreal_0 X0)))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole_0 X1) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k3_catalan2 X0)))\Rightarrow(\forall X2.(v7_ordinal1 X2)\Rightarrow((k2_flang_1 X0 \in X1)\Rightarrow((r1_xxreal_0 X2 k6_numbers)\vee(r1_tarski X1 (k7_flang_1 X0 X1 X2)))))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 X1)\Rightarrow((v1_xboole_0 X1)\vee(X0 \in X1)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k3_catalan2 X0)))\Rightarrow(k7_flang_1 X0 X1 np_1 = X1) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k8_afinsq_1 X0)))\Rightarrow(\forall X2.(v7_ordinal1 X2)\Rightarrow(\forall X3.(v7_ordinal1 X3)\Rightarrow((k1_flang_2 X0 X1 X2 X3 = k1_xboole_0)\Leftrightarrow(\neg(r1_xxreal_0 X2 X3)\wedge(\neg(\neg r1_xxreal_0 X2 k6_numbers)\wedge(X1 = k1_xboole_0)))))) \quad (9)$$

Assume the following.

$$\forall X0.(v1_xxreal_0 X0)\Rightarrow(\forall X1.(v1_xxreal_0 X1)\Rightarrow(((r1_xxreal_0 X0 X1)\wedge(v2_xxreal_0 X0))\Rightarrow(v2_xxreal_0 X1))) \quad (10)$$

Assume the following.

$$m1_subset_1 k1_xboole_0 k4_ordinal1 \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k8_afinsq_1 X0)))\Rightarrow(\forall X3.(v7_ordinal1 X3)\Rightarrow(\forall X4.(v7_ordinal1 X4)\Rightarrow((X1 \in k1_flang_2 X0 X2 X3 X4)\Leftrightarrow(\exists X5.(v7_ordinal1 X5)\wedge((r1_xxreal_0 X3 X5)\wedge((r1_xxreal_0 X5 X4)\wedge(X1 \in k7_flang_1 X0 X2 X5))))))) \quad (12)$$

Assume the following.

$$((v2_xxreal_0 np_1)\wedge(m2_subset_1 np_1 k1_numbers k5_numbers))\wedge((m1_subset_1 np_1 k5_numbers)\wedge(m1_subset_1 np_1 k1_numbers)) \quad (13)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (14)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (15)$$

Assume the following.

$$\forall X0. k3_catalan2 X0 = k8_afinsq_1 X0 \quad (16)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (17)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (r1_xxreal_0 X0 X1) \vee (r1_xxreal_0 X1 X0) \quad (18)$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (19)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (v7_ordinal1 X0) \quad (20)$$

Assume the following.

$$\forall X0. ((v1_xxreal_0 X0) \wedge (v2_xxreal_0 X0)) \Rightarrow ((\neg v1_xboole_0 X0) \wedge ((v1_xxreal_0 X0) \wedge (\neg v3_xxreal_0 X0))) \quad (21)$$

Assume the following.

$$\forall X0. (v7_ordinal1 X0) \Rightarrow (v1_xxreal_0 X0) \quad (22)$$

Assume the following.

$$\forall X0. (v7_ordinal1 X0) \Rightarrow (v1_xreal_0 X0) \quad (23)$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 k5_numbers) \Rightarrow (\neg v3_xxreal_0 X0) \quad (24)$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xreal_0 X0) \quad (25)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_xboole_0 X1)) \quad (26)$$

Theorem 1

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k8_afinsq_1 X1))) \Rightarrow (\forall X3. (v7_ordinal1 X3) \Rightarrow (\forall X4. (v7_ordinal1 X4) \Rightarrow ((k5_afinsq_1 X0 \in k1_flang_2 X1 X2 X3 X4) \Leftrightarrow ((k5_afinsq_1 X0 \in X2) \wedge ((r1_xxreal_0 X3 X4) \wedge (((k2_flang_1 X1 \in X2) \wedge (\neg v1_xxreal_0 X4 k6_numbers)) \vee ((r1_xxreal_0 X3 np_1) \wedge (r1_xxreal_0 np_1 X4))))))))))$$