

t104_rewrite3 (TMN- TkVjnKmQu4Mu3mkh8QJZqnL7GqmC5NF7)

October 27, 2020

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 $k8_afinsq_1 : \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_rewrite3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k2_flang_1 : \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $u1_rewrite3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_rewrite3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r4_rewrite3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (\forall X2. (X2 \in X0) \Leftrightarrow (X2 \in X1)) \Rightarrow (X0 = X1) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (\neg v1_xboole_0 X2) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (k1_zfmisc_1 (k8_afinsq_1 X2))) \Rightarrow (\forall X4. \\ & ((\neg v2_struct_0 X4) \wedge (l1_rewrite3 X4 X3)) \Rightarrow (\forall X5. (m1_subset_1 \\ & X5 (u1_struct_0 X4)) \Rightarrow ((X5 \in k3_rewrite3 X2 X3 X4 X0 X1) \Leftrightarrow (\exists X6. \\ & (m1_subset_1 X6 (u1_struct_0 X4)) \wedge ((X6 \in X1) \wedge (r4_rewrite3 X2 X3 \\ & X4 X6 X0 X5)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (\neg v1_xboole_0 X2) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (k1_zfmisc_1 (k8_afinsq_1 X2))) \Rightarrow (\forall X4. \\ & ((\neg v2_struct_0 X4) \wedge (l1_rewrite3 X4 X3)) \Rightarrow ((\neg k2_flang_1 X2 \in k10_xtuple_0 \\ & (k9_xtuple_0 (u1_rewrite3 X3 X4))) \Rightarrow ((r4_rewrite3 X2 X3 X4 X0 (k2_flang_1 \\ & X2) X1) \Leftrightarrow (X0 = X1)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. ((\neg v1_xboole_0 \\ & X0) \wedge ((m1_subset_1 X1 (k1_zfmisc_1 (k8_afinsq_1 X0))) \wedge ((\neg v2_struct_0 \\ & X2) \wedge (l1_rewrite3 X2 X1)))) \Rightarrow (m1_subset_1 (k3_rewrite3 X0 X1 X2 \\ & X3 X4) (k1_zfmisc_1 (u1_struct_0 X2))) \end{aligned} \quad (5)$$

Theorem 1

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 \\ & (k8_afinsq_1 X0))) \Rightarrow (\forall X2. ((\neg v2_struct_0 X2) \wedge (l1_rewrite3 \\ & X2 X1)) \Rightarrow (\forall X3. (m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 \\ & X2)))) \Rightarrow ((\neg k2_flang_1 X0 \in k10_xtuple_0 (k9_xtuple_0 (u1_rewrite3 \\ & X1 X2))) \Rightarrow (k3_rewrite3 X0 X1 X2 (k2_flang_1 X0) X3 = X3)))))) \end{aligned}$$