

t13_rewrite3 (TMZi- HYysq6DGkH9oiNG4P73kdVDjWG005Fv)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_afinsq_1 : \iota \Rightarrow \iota$ be given. Let $k1_flang_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_afinsq_1 : \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k3_catalan2 : \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v4_funct_1 : \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v5_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k8_afinsq_1 \\
& \quad X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (k8_afinsq_1 X0)) \Rightarrow (\forall X3. \\
& \quad (m1_subset_1 X3 (k8_afinsq_1 X0)) \Rightarrow (\forall X4. (m1_subset_1 X4 \\
& \quad (k8_afinsq_1 X0)) \Rightarrow (\neg (k1_flang_1 X0 X1 X2 = k1_flang_1 X0 X3 X4) \wedge \\
& \quad ((r1_xxreal_0 (k1_afinsq_1 X1) (k1_afinsq_1 X3)) \vee (r1_xxreal_0 \\
& \quad (k1_afinsq_1 X4) (k1_afinsq_1 X2)))) \wedge (\forall X5. (m1_subset_1 \\
& \quad X5 (k8_afinsq_1 X0)) \Rightarrow (\neg (k1_flang_1 X0 X1 X5 = X3) \wedge (X2 = k1_flang_1 \\
& \quad X0 X5 X4)))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\
& \quad (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\
& \quad X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1))
\end{aligned} \tag{2}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \tag{3}$$

Assume the following.

$$\forall X0. k3_catalan2 X0 = k8_afinsq_1 X0 \tag{4}$$

Assume the following.

$$(\neg v1_xboole_0 \ k4_ordinal1) \wedge (v3_ordinal1 \ k4_ordinal1) \quad (5)$$

Assume the following.

$$\forall X0. v4_funct_1 \ (k8_afinsq_1 \ X0) \quad (6)$$

Assume the following.

$$m1_subset_1 \ k5_numbers \ (k1_zfmisc_1 \ k1_numbers) \quad (7)$$

Assume the following.

$$\forall X0. ((v1_relat_1 \ X0) \wedge ((v5_ordinal1 \ X0) \wedge ((v1_funct_1 \ X0) \wedge (v1_finset_1 \ X0)))) \Rightarrow (m2_subset_1 \ (k1_afinsq_1 \ X0) \ k1_numbers \ k5_numbers) \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_xxreal_0 \ X0) \wedge (v1_xxreal_0 \ X1)) \Rightarrow ((r1_xxreal_0 \ X0 \ X1) \vee (r1_xxreal_0 \ X1 \ X0)) \quad (9)$$

Assume the following.

$$\forall X0. (m1_subset_1 \ X0 \ k4_ordinal1) \Rightarrow (v7_ordinal1 \ X0) \quad (10)$$

Assume the following.

$$\forall X0. (v4_funct_1 \ X0) \Rightarrow (\forall X1. (m1_subset_1 \ X1 \ X0) \Rightarrow ((v1_relat_1 \ X1) \wedge (v1_funct_1 \ X1))) \quad (11)$$

Assume the following.

$$\forall X0. (v1_xreal_0 \ X0) \Rightarrow (v1_xxreal_0 \ X0) \quad (12)$$

Assume the following.

$$\forall X0. (v7_ordinal1 \ X0) \Rightarrow (v1_xreal_0 \ X0) \quad (13)$$

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.

$$\forall X0. \forall X1. (m1_subset_1 \ X1 \ (k8_afinsq_1 \ X0)) \Rightarrow ((v5_ordinal1 \ X1) \wedge (v1_finset_1 \ X1)) \quad (15)$$

Theorem 1

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k8_afinsq_1 \\ X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k8_afinsq_1 X0)) \Rightarrow (\forall X3. \\ (m1_subset_1 X3 (k8_afinsq_1 X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 \\ (k8_afinsq_1 X0)) \Rightarrow (\neg(k1_flang_1 X0 X1 X2 = k1_flang_1 X0 X3 X4) \wedge \\ ((\forall X5.(m1_subset_1 X5 (k8_afinsq_1 X0)) \Rightarrow (\neg(k1_flang_1 \\ X0 X1 X5 = X3) \wedge (X2 = k1_flang_1 X0 X5 X4))) \wedge (\forall X5.(m1_subset_1 \\ X5 (k8_afinsq_1 X0)) \Rightarrow (\neg(k1_flang_1 X0 X3 X5 = X1) \wedge (X4 = k1_flang_1 \\ X0 X5 X2)))))))))) \end{aligned}$$