

t23_rewrite3

(TMdaGyABw255H6jrCXoARwNHNjbX4tLqzi9)

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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 $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k8_afinsq_1 : \iota \Rightarrow \iota$ be given. Let $l1_rewrite3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_rewrite3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_rewrite3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_flang_1 : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $r1_struct_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $u1_rewrite3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k3_catalan2 : \iota \Rightarrow \iota$ be given. Let $k4_afinsq_1 : \iota \Rightarrow \iota$ be given. Let $k1_flang_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_ordinal4 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_funct_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

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.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(l1_rewrite3 \\ & X4 X0) \Rightarrow ((r1_rewrite3 X0 X4 X1 X2 X3) \Rightarrow ((r1_struct_0 X4 X1) \wedge ((X2 \in \\ & X0) \wedge ((r1_struct_0 X4 X3) \wedge ((X1 \in k9_xtuple_0 (k9_xtuple_0 (u1_rewrite3 \\ & X0 X4))) \wedge ((X2 \in k10_xtuple_0 (k9_xtuple_0 (u1_rewrite3 X0 X4))) \wedge \\ & (X3 \in k10_xtuple_0 (u1_rewrite3 X0 X4)))))))))) \quad (3) \end{aligned}$$

Assume the following.

$$\forall X0.k3_catalan2 X0 = k8_afinsq_1 X0 \quad (4)$$

Assume the following.

$$\forall X0.k2_flang_1 X0 = k4_afinsq_1 X0 \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1_subset_1 X1 (k3_catalan2 X0))\wedge(m1_subset_1 X2 (k3_catalan2 X0)))\Rightarrow(k1_flang_1 X0 X1 X2 = k1_ordinal4 X1 X2) \quad (6)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v5_ordinal1 X0)\wedge((v1_funct_1 X0)\wedge(v1_finset_1 X0))))\Rightarrow(k1_ordinal4 X0 k1_xboole_0 = X0) \quad (7)$$

Assume the following.

$$\forall X0.(v1_relat_1 (k4_afinsq_1 X0))\wedge((v5_relat_1 (k4_afinsq_1 X0) X0)\wedge((v5_ordinal1 (k4_afinsq_1 X0))\wedge((v1_funct_1 (k4_afinsq_1 X0))\wedge((v1_xboole_0 (k4_afinsq_1 X0))\wedge(v1_finset_1 (k4_afinsq_1 X0))))))) \quad (8)$$

Assume the following.

$$\forall X0.v4_funct_1 (k8_afinsq_1 X0) \quad (9)$$

Assume the following.

$$\forall X0.m1_subset_1 (k2_flang_1 X0) (k3_catalan2 X0) \quad (10)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k8_afinsq_1 X0)))\Rightarrow(\forall X2.(l1_rewrite3 X2 X1)\Rightarrow(\forall X3.\forall X4.\forall X5.\forall X6.(r2_rewrite3 X0 X1 X2 X3 X4 X5 X6)\Leftrightarrow(\exists X7.(m1_subset_1 X7 (k8_afinsq_1 X0))\wedge(\exists X8.(m1_subset_1 X8 (k8_afinsq_1 X0))\wedge((X7 = X6)\wedge((r1_rewrite3 X1 X2 X3 X8 X5)\wedge(X4 = k1_flang_1 X0 X8 X7)))))))))) \quad (11)$$

Assume the following.

$$\forall X0.(v4_funct_1 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 X0)\Rightarrow((v1_relat_1 X1)\wedge(v1_funct_1 X1))) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k8_afinsq_1 X0))\Rightarrow((v5_ordinal1 X1)\wedge(v1_finset_1 X1)) \quad (13)$$

Theorem 1

$$\forall X0.\forall X1.\forall X2.\forall X3.(\neg v1_xboole_0 X3)\Rightarrow(\forall X4.(m1_subset_1 X4 (k1_zfmisc_1 (k8_afinsq_1 X3)))\Rightarrow(\forall X5.(l1_rewrite3 X5 X4)\Rightarrow((r1_rewrite3 X4 X5 X0 X1 X2)\Leftrightarrow(r2_rewrite3 X3 X4 X5 X0 X1 X2 (k2_flang_1 X3))))))$$