

t96_rewrite3

(TMQP2oRBvPrVsmZzSowaNM9DmSH5iq5DCmG)

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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 $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_rewrite3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r4_rewrite3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_rewrite3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_flang_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_flang_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (\neg v1_xboole_0 X2) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (k8_afinsq_1 X2)) \Rightarrow (\forall X4. (m1_subset_1 X4 \\ & (k8_afinsq_1 X2)) \Rightarrow (\forall X5. (m1_subset_1 X5 (k1_zfmisc_1 (\\ & k8_afinsq_1 X2)))) \Rightarrow (\forall X6. ((\neg v2_struct_0 X6) \wedge (l1_rewrite3 \\ & X6 X5)) \Rightarrow ((r3_rewrite3 X2 X5 X6 X0 X3 X1 (k1_flang_1 X2 X4 X3)) \Rightarrow (X4 = \\ & k2_flang_1 X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (\neg v1_xboole_0 X2) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (k8_afinsq_1 X2)) \Rightarrow (\forall X4. (m1_subset_1 X4 \\ & (k8_afinsq_1 X2)) \Rightarrow (\forall X5. (m1_subset_1 X5 (k1_zfmisc_1 (\\ & k8_afinsq_1 X2)))) \Rightarrow (\forall X6. ((\neg v2_struct_0 X6) \wedge (l1_rewrite3 \\ & X6 X5)) \Rightarrow (\neg (r3_rewrite3 X2 X5 X6 X0 X3 X1 X4) \wedge (\forall X7. (m1_subset_1 \\ & X7 (k8_afinsq_1 X2)) \Rightarrow (X3 \neq k1_flang_1 X2 X7 X4)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (\neg v1_xboole_0 X2) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (k8_afinsq_1 X2)) \Rightarrow (\forall X4. (m1_subset_1 X4 \\ & (k8_afinsq_1 X2)) \Rightarrow (\forall X5. (m1_subset_1 X5 (k8_afinsq_1 X2)) \Rightarrow \\ & (\forall X6. (m1_subset_1 X6 (k1_zfmisc_1 (k8_afinsq_1 X2))) \Rightarrow \\ & (\forall X7. ((\neg v2_struct_0 X7) \wedge (l1_rewrite3 X7 X6)) \Rightarrow ((r3_rewrite3 \\ & X2 X6 X7 X0 X3 X1 X4) \Rightarrow (r3_rewrite3 X2 X6 X7 X0 (k1_flang_1 X2 X3 X5) X1 \\ & (k1_flang_1 X2 X4 X5)))))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (\neg v1_xboole_0 X2) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (k1_zfmisc_1 (k8_afinsq_1 X2))) \Rightarrow (\forall X4. \\ & ((\neg v2_struct_0 X4) \wedge (l1_rewrite3 X4 X3)) \Rightarrow (r3_rewrite3 X2 X3 X4 \\ & X0 X1 X0 X1))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 \\ & (k8_afinsq_1 X0))) \Rightarrow (\forall X2. ((\neg v2_struct_0 X2) \wedge (l1_rewrite3 \\ & X2 X1)) \Rightarrow (\forall X3. \forall X4. \forall X5. (r4_rewrite3 X0 X1 X2 \\ & X3 X4 X5) \Leftrightarrow (r3_rewrite3 X0 X1 X2 X3 X4 X5 (k2_flang_1 X0)))))) \end{aligned} \quad (5)$$

Theorem 1

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (\neg v1_xboole_0 X2) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (k8_afinsq_1 X2)) \Rightarrow (\forall X4. (m1_subset_1 X4 \\ & (k8_afinsq_1 X2)) \Rightarrow (\forall X5. (m1_subset_1 X5 (k1_zfmisc_1 (\\ & k8_afinsq_1 X2))) \Rightarrow (\forall X6. ((\neg v2_struct_0 X6) \wedge (l1_rewrite3 \\ & X6 X5)) \Rightarrow ((r4_rewrite3 X2 X5 X6 X0 X3 X1) \Rightarrow (r3_rewrite3 X2 X5 X6 X0 (\\ & k1_flang_1 X2 X3 X4) X1 X4)))))) \end{aligned}$$