

t99_rewrite3

(TMP1PP9zvJfscw24A4JDfZrPp9wuWTKvFvq)

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

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (\neg v1_xboole_0 X2) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (k8_afinsq_1 X2)) \Rightarrow (\forall X4. (m1_subset_1 X4 \\ & (k8_afinsq_1 X2)) \Rightarrow (\forall X5. (m1_subset_1 X5 (k1_zfmisc_1 (\\ & k8_afinsq_1 X2)))) \Rightarrow (\forall X6. ((\neg v2_struct_0 X6) \wedge (l1_rewrite3 \\ & X6 X5)) \Rightarrow ((r4_rewrite3 X2 X5 X6 X0 X3 X1) \Rightarrow (r3_rewrite3 X2 X5 X6 X0 (\\ & k1_flang_1 X2 X3 X4) X1 X4)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & \forall X6. (\neg v1_xboole_0 X6) \Rightarrow (\forall X7. (m1_subset_1 X7 (k1_zfmisc_1 \\ & (k8_afinsq_1 X6))) \Rightarrow (\forall X8. ((\neg v2_struct_0 X8) \wedge (l1_rewrite3 \\ & X8 X7)) \Rightarrow (((r3_rewrite3 X6 X7 X8 X0 X1 X2 X3) \wedge (r3_rewrite3 X6 X7 X8 \\ & X2 X3 X4 X5)) \Rightarrow (r3_rewrite3 X6 X7 X8 X0 X1 X4 X5)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 \\ & (k8_afinsq_1 X0))) \Rightarrow (\forall X2. ((\neg v2_struct_0 X2) \wedge (l1_rewrite3 \\ & X2 X1)) \Rightarrow (\forall X3. \forall X4. \forall X5. (r4_rewrite3 X0 X1 X2 \\ & X3 X4 X5) \Leftrightarrow (r3_rewrite3 X0 X1 X2 X3 X4 X5 (k2_flang_1 X0)))))) \end{aligned} \tag{3}$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(\neg v1_xboole_0 X3)\Rightarrow \\ & (\forall X4.(m1_subset_1 X4 (k8_afinsq_1 X3))\Rightarrow(\forall X5.(m1_subset_1 \\ & X5 (k8_afinsq_1 X3))\Rightarrow(\forall X6.(m1_subset_1 X6 (k1_zfmisc_1 \\ & (k8_afinsq_1 X3))\Rightarrow(\forall X7.((\neg v2_struct_0 X7)\wedge(l1_rewrite3 \\ X7 X6))\Rightarrow(((r4_rewrite3 X3 X6 X7 X0 X4 X1)\wedge(r4_rewrite3 X3 X6 X7 X1 \\ X5 X2))\Rightarrow(r4_rewrite3 X3 X6 X7 X0 (k1_flang_1 X3 X4 X5) X2)))))) \end{aligned}$$