

t32_rewrite3

(TMdr1whdnzg3zFb3EAXSnk4f5LePiudqpci)

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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 $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_rewrite3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_rewrite3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $r2_rewrite3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. (\neg v1_xboole_0 \\
& X4) \Rightarrow (\forall X5. (m1_subset_1 X5 (k1_zfmisc_1 (k8_afinsq_1 X4))) \Rightarrow \\
& (\forall X6. (l1_rewrite3 X6 X5) \Rightarrow ((r2_rewrite3 X4 X5 X6 X0 X1 X2 X3) \Rightarrow \\
& ((r1_struct_0 X6 X0) \wedge ((r1_struct_0 X6 X2) \wedge ((X1 \in k8_afinsq_1 X4) \wedge \\
& ((X3 \in k8_afinsq_1 X4) \wedge ((X0 \in k9_xtuple_0 (k9_xtuple_0 (u1_rewrite3 \\
& X5 X6)))) \wedge (X2 \in k10_xtuple_0 (u1_rewrite3 X5 X6))))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge ((m1_subset_1 \\
& X1 (k1_zfmisc_1 (k8_afinsq_1 X0))) \wedge ((\neg v2_struct_0 X2) \wedge (l1_rewrite3 \\
& X2 X1)))) \Rightarrow (m1_subset_1 (k1_rewrite3 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k2_zfmisc_1 (u1_struct_0 X2) (k8_afinsq_1 X0)) (k2_zfmisc_1 \\
& (u1_struct_0 X2) (k8_afinsq_1 X0))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 \\
& (k8_afinsq_1 X0))) \Rightarrow (\forall X2. ((\neg v2_struct_0 X2) \wedge (l1_rewrite3 \\
& X2 X1)) \Rightarrow (\forall X3. (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k2_zfmisc_1 (u1_struct_0 X2) (k8_afinsq_1 X0)) (k2_zfmisc_1 \\
& (u1_struct_0 X2) (k8_afinsq_1 X0)))))) \Rightarrow ((X3 = k1_rewrite3 X0 X1 \\
& X2) \Leftrightarrow (\forall X4. \forall X5. \forall X6. \forall X7. (k4_tarski \\
& (k4_tarski X4 X5) (k4_tarski X6 X7) \in X3) \Leftrightarrow (r2_rewrite3 X0 X1 X2 X4 \\
& X5 X6 X7))))))
\end{aligned} \tag{3}$$

Theorem 1

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. (\neg v1_xboole_0 \\ & X4) \Rightarrow (\forall X5. (m1_subset_1 X5 (k1_zfmisc_1 (k8_afinsq_1 X4))) \Rightarrow \\ & (\forall X6. ((\neg v2_struct_0 X6) \wedge (l1_rewrite3 X6 X5)) \Rightarrow ((k4_tarski \\ & (k4_tarski X0 X1) (k4_tarski X2 X3) \in k1_rewrite3 X4 X5 X6) \Rightarrow ((r1_struct_0 \\ & X6 X0) \wedge ((r1_struct_0 X6 X2) \wedge ((X1 \in k8_afinsq_1 X4) \wedge ((X3 \in k8_afinsq_1 \\ & X4) \wedge ((X0 \in k9_xtuple_0 (k9_xtuple_0 (u1_rewrite3 X5 X6))) \wedge (X2 \in \\ & k10_xtuple_0 (u1_rewrite3 X5 X6)))))))))) \end{aligned}$$