

# t37\_rewrite3 (TMdE- jwQVWTPm9bXfnPeu5K3KQa6BvzKWxcV)

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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  $r1\_rewrite3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_flang\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_rewrite3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (\neg v1\_xboole\_0 X3) \Rightarrow \\ & (\forall X4. (m1\_subset\_1 X4 (k1\_zfmisc\_1 (k8\_afinsq\_1 X3))) \Rightarrow \\ & (\forall X5. (l1\_rewrite3 X5 X4) \Rightarrow ((r1\_rewrite3 X4 X5 X0 X1 X2) \Leftrightarrow ( \\ & r2\_rewrite3 X3 X4 X5 X0 X1 X2 (k2\_flang\_1 X3)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1\_xboole\_0 X0) \wedge ((m1\_subset\_1 \\ & X1 (k1\_zfmisc\_1 (k8\_afinsq\_1 X0))) \wedge ((\neg v2\_struct\_0 X2) \wedge (l1\_rewrite3 \\ & X2 X1)))) \Rightarrow (m1\_subset\_1 (k1\_rewrite3 X0 X1 X2) (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & (k2\_zfmisc\_1 (u1\_struct\_0 X2) (k8\_afinsq\_1 X0)) (k2\_zfmisc\_1 \\ & (u1\_struct\_0 X2) (k8\_afinsq\_1 X0)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k8\_afinsq\_1 X0))) \Rightarrow (\forall X2. ((\neg v2\_struct\_0 X2) \wedge (l1\_rewrite3 \\ & X2 X1)) \Rightarrow (\forall X3. (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & (k2\_zfmisc\_1 (u1\_struct\_0 X2) (k8\_afinsq\_1 X0)) (k2\_zfmisc\_1 \\ & (u1\_struct\_0 X2) (k8\_afinsq\_1 X0)))))) \Rightarrow ((X3 = k1\_rewrite3 X0 X1 \\ & X2) \Leftrightarrow (\forall X4. \forall X5. \forall X6. \forall X7. (k4\_tarski \\ & (k4\_tarski X4 X5) (k4\_tarski X6 X7) \in X3) \Leftrightarrow (r2\_rewrite3 X0 X1 X2 X4 \\ & X5 X6 X7)))))) \end{aligned} \quad (3)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(\neg v1\_xboole\_0 X3)\Rightarrow \\ & (\forall X4.(m1\_subset\_1 X4 (k1\_zfmisc\_1 (k8\_afinsq\_1 X3)))\Rightarrow \\ & (\forall X5.((\neg v2\_struct\_0 X5)\wedge(l1\_rewrite3 X5 X4))\Rightarrow((r1\_rewrite3 \\ X4 X5 X0 X1 X2)\Leftrightarrow(k4\_tarski (k4\_tarski X0 X1) (k4\_tarski X2 (k2\_flang\_1 \\ X3)) \in k1\_rewrite3 X3 X4 X5)))) \end{aligned}$$