# t100_rewrite3 (TMSLD-DVYPRp18xQksX3P6iuM4xwc14gX4Yi)

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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 $k2\_flang\_1 : \iota \Rightarrow \iota$ be given. Let $k10\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k9\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $u1\_rewrite3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r4\_rewrite3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3\_rewrite3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3\_catalan2 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.(\neg v1\_xboole\_0\ X2) \Rightarrow (\forall X3.\ (m1\_subset\_1\ X3\ (k8\_afinsq\_1\ X2)) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k8\_afinsq\_1\ X2))) \Rightarrow (\forall X5.((\neg v2\_struct\_0\ X5) \wedge (l1\_rewrite3\ X5\ X4)) \Rightarrow ((\neg k2\_flang\_1\ X2 \in k10\_xtuple\_0\ (k9\_xtuple\_0\ (u1\_rewrite3\ X4\ X5))) \Rightarrow ((r3\_rewrite3\ X2\ X4\ X5\ X0\ X3\ X1\ X3) \Leftrightarrow (X0 = X1))))))) \tag{1}$$

Assume the following.

$$\forall X0.k3\_catalan2\ X0 = k8\_afinsq\_1\ X0 \tag{2}$$

Assume the following.

$$\forall X0.m1\_subset\_1\ (k2\_flang\_1\ X0)\ (k3\_catalan2\ X0) \tag{3}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k8\_afinsq\_1\ X0))) \Rightarrow (\forall X2.((\neg v2\_struct\_0\ X2) \wedge (l1\_rewrite3\ X2\ X1)) \Rightarrow (\forall X3.\forall X4.\forall X5.(r4\_rewrite3\ X0\ X1\ X2\ X3\ X4\ X5) \Leftrightarrow (r3\_rewrite3\ X0\ X1\ X2\ X3\ X4\ X5\ (k2\_flang\_1\ X0))))) \tag{4}$$

**Theorem 1**

$$\forall X0.\forall X1.\forall X2.(\neg v1\_xboole\_0\ X2) \Rightarrow (\forall X3.\ (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k8\_afinsq\_1\ X2))) \Rightarrow (\forall X4.\ ((\neg v2\_struct\_0\ X4) \wedge (l1\_rewrite3\ X4\ X3)) \Rightarrow ((\neg k2\_flang\_1\ X2 \in k10\_xtuple\_0\ (k9\_xtuple\_0\ (u1\_rewrite3\ X3\ X4))) \Rightarrow ((r4\_rewrite3\ X2\ X3\ X4\ X0\ (k2\_flang\_1\ X2)\ X1) \Leftrightarrow (X0 = X1)))))$$