t38_rewrite2 (TMLff7DYWCrdymAhdfdJH33p2Hfk2biKVT7)

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Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8\_afinsq\_1 : \iota \Rightarrow \iota$ be given. Let $r3\_rewrite2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_flang\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_catalan2 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k8\_afinsq\_1\ X0)\ (k8\_afinsq\_1\ X0)))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k8\_afinsq\_1\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (k8\_afinsq\_1\ X0)) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ (k8\_afinsq\_1\ X0)) \Rightarrow ((r3\_rewrite2\ X0\ X1\ X2\ X3) \Rightarrow ((r3\_rewrite2\ X0\ X1\ (k1\_flang\_1\ X0\ X2\ X4)\ (k1\_flang\_1\ X0\ X3\ X4)) \wedge (r3\_rewrite2\ X0\ X1\ (k1\_flang\_1\ X0\ X4\ X2)\ (k1\_flang\_1\ X0\ X4\ X3)))))))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k8\_afinsq\_1\ X0)\ (k8\_afinsq\_1\ X0)))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k8\_afinsq\_1\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (k8\_afinsq\_1\ X0)) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ (k8\_afinsq\_1\ X0)) \Rightarrow (((r3\_rewrite2\ X0\ X1\ X2\ X3) \wedge (r3\_rewrite2\ X0\ X1\ X3\ X4)) \Rightarrow (r3\_rewrite2\ X0\ X1\ X2\ X4))))) \tag{2}$$

Assume the following.

$$\forall X0.k3\_catalan2\ X0 = k8\_afinsq\_1\ X0 \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_subset\_1\ X1\ (k3\_catalan2\ X0)) \wedge (m1\_subset\_1\ X2\ (k3\_catalan2\ X0))) \Rightarrow (m1\_subset\_1\ (k1\_flang\_1\ X0\ X1\ X2)\ (k3\_catalan2\ X0)) \tag{4}$$

Theorem 1

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k8\_afinsq\_1\ X0)\ (k8\_afinsq\_1\ X0))))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k8\_afinsq\_1\ X0))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (k8\_afinsq\_1\ X0))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (k8\_afinsq\_1\ X0))\Rightarrow(\forall X5.(m1\_subset\_1\ X5\ (k8\_afinsq\_1\ X0))\Rightarrow(((r3\_rewrite2\ X0\ X1\ X2\ X3)\wedge(r3\_rewrite2\ X0\ X1\ X4\ X5))\Rightarrow((r3\_rewrite2\ X0\ X1\ (k1\_flang\_1\ X0\ X2\ X4)\ (k1\_flang\_1\ X0\ X3\ X5))\wedge(r3\_rewrite2\ X0\ X1\ (k1\_flang\_1\ X0\ X4\ X2)\ (k1\_flang\_1\ X0\ X5\ X3)))))))))$$