t29_rewrite2 (TMH5RJ7TAnBG4dY9QgMAMaH7XaJWeYjjYPg)

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Let $r2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8\_afinsq\_1 : \iota \Rightarrow \iota$ be given. Let $k7\_rewrite2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_partit\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2\_rewrite2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $k1\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\neg(X0 \in X1) \wedge (v1\_xboole\_0\ X1) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k8\_afinsq\_1\ X0)) \Rightarrow (\forall X2.\ (m1\_subset\_1\ X2\ (k8\_afinsq\_1\ X0)) \Rightarrow (\neg r2\_rewrite2\ X0\ (k1\_partit\_2\ (k8\_afinsq\_1\ X0)\ (k8\_afinsq\_1\ X0))\ X1\ X2)) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))) \Rightarrow ((r2\_relset\_1\ X0\ X1\ X2\ X3) \Leftrightarrow (X2 = X3)) \tag{3}$$

Assume the following.

$$v1\_xboole\_0\ k1\_xboole\_0 \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.m1\_subset\_1\ (k1\_partit\_2\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k8\_afinsq\_1\ X0)\ (k8\_afinsq\_1\ X0))))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k8\_afinsq\_1\ X0)\ (k8\_afinsq\_1\ X0))))\Rightarrow((X2 = k7\_rewrite2\ X0\ X1)\Leftrightarrow(\forall X3.(m1\_subset\_1\ X3\ (k8\_afinsq\_1\ X0))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (k8\_afinsq\_1\ X0))\Rightarrow((k1\_domain\_1\ (k8\_afinsq\_1\ X0)\ (k8\_afinsq\_1\ X0)\ X3\ X4 \in X2)\Leftrightarrow(r2\_rewrite2\ X0\ X1\ X3\ X4))))))) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.k1\_partit\_2\ X0\ X1 = k1\_xboole\_0 \tag{7}$$

Theorem 1

$$\forall X0.r2\_relset\_1\ (k8\_afinsq\_1\ X0)\ (k8\_afinsq\_1\ X0)\ (k7\_rewrite2\ X0\ (k1\_partit\_2\ (k8\_afinsq\_1\ X0)\ (k8\_afinsq\_1\ X0)))\ (k1\_partit\_2\ (k8\_afinsq\_1\ X0)\ (k8\_afinsq\_1\ X0))$$