

t49\_rewrite2  
(TMdcYcxergZoXaAKB8XiabK69L9gyVppS1p)

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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  $k8\_rewrite2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_rewrite2 : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r3\_rewrite2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_relat\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. r1\_tarski X0 (k2\_xboole\_0 X0 X1) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & \quad (k8\_afinsq\_1 X0) (k8\_afinsq\_1 X0)))) \Rightarrow (\forall X2. (m1\_subset\_1 \\ & \quad X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k8\_afinsq\_1 X0) (k8\_afinsq\_1 X0)))) \Rightarrow \\ & \quad (\forall X3. (m1\_subset\_1 X3 (k8\_afinsq\_1 X0)) \Rightarrow ((r1\_relset\_1 \\ & \quad (k8\_afinsq\_1 X0) (k8\_afinsq\_1 X0) X1 X2) \Rightarrow (r1\_tarski (k8\_rewrite2 \\ & \quad \quad X0 X1 X3) (k8\_rewrite2 X0 X2 X3)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & \quad (k8\_afinsq\_1 X0) (k8\_afinsq\_1 X0)))) \Rightarrow (\forall X2. (m1\_subset\_1 \\ & \quad X2 (k8\_afinsq\_1 X0)) \Rightarrow (\forall X3. (m1\_subset\_1 X3 (k8\_afinsq\_1 \\ & \quad X0)) \Rightarrow ((r3\_rewrite2 X0 X1 X2 X3) \Leftrightarrow (r3\_rewrite2 X0 (k4\_subset\_1 ( \\ & \quad \quad k2\_zfmisc\_1 (k8\_afinsq\_1 X0) (k8\_afinsq\_1 X0)) X1 (k6\_rewrite2 \\ & \quad \quad \quad (k8\_afinsq\_1 X0)) X2 X3)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (m1\_subset\_1 X2 ( \\ & \quad k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow ((r1\_relset\_1 X0 X1 X2 X3) \Leftrightarrow ( \\ & \quad \quad r1\_tarski X2 X3)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.k6\_rewrite2\ X0 = k4\_relat\_1\ X0 \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ X0))) \Rightarrow (k4\_subset\_1\ X0\ X1\ X2 = k2\_xboole\_0\ X1\ X2) \quad (6)$$

Assume the following.

$$\forall X0.m1\_subset\_1\ (k6\_rewrite2\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ X0))) \Rightarrow (m1\_subset\_1\ (k4\_subset\_1\ X0\ X1\ X2)\ (k1\_zfmisc\_1\ X0)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k8\_afinsq\_1\ X0)\ (k8\_afinsq\_1\ X0)))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k8\_afinsq\_1\ X0)) \Rightarrow (k8\_rewrite2\ X0\ X1\ X2 = ReplSep\ (toset\ (\lambda X3 : \iota.m1\_subset\_1\ X3\ (k8\_afinsq\_1\ X0)))\ (\lambda X3 : \iota.r3\_rewrite2\ X0\ X1\ X2\ X3)\ (\lambda X3 : \iota.X3)))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski\ X0\ X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow (X2 \in X1)) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1) \Leftrightarrow ((r1\_tarski\ X0\ X1) \wedge (r1\_tarski\ X1\ X0)) \quad (11)$$

**Theorem 1**

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k8\_afinsq\_1\ X0)\ (k8\_afinsq\_1\ X0)))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k8\_afinsq\_1\ X0)) \Rightarrow (k8\_rewrite2\ X0\ X1\ X2 = k8\_rewrite2\ X0\ (k4\_subset\_1\ (k2\_zfmisc\_1\ (k8\_afinsq\_1\ X0)\ (k8\_afinsq\_1\ X0))\ X1\ (k6\_rewrite2\ (k8\_afinsq\_1\ X0))\ X2)))$$