

# t16\_rewrite2 (TMd- komtgR5hkKmvP9JKMz5XoSGHjqGdvhoP)

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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  $v3\_relat\_2 : \iota \Rightarrow o$  be given. Let  $r1\_rewrite2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $k2\_relat\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.(v1\_relat\_1 X0) \Rightarrow ((v3\_relat\_2 X0) \Leftrightarrow (X0 = k2\_relat\_1 X0)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 X0) \wedge \\ & ((\neg v1\_xboole\_0 X1) \wedge ((m1\_subset\_1 X2 X0) \wedge (m1\_subset\_1 X3 X1)))) \Rightarrow \\ & (k1\_domain\_1 X0 X1 X2 X3 = k4\_tarski X2 X3) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.v1\_relat\_1 (k2\_zfmisc\_1 X0 X1) \quad (3)$$

Assume the following.

$$\forall X0.\neg v1\_xboole\_0 (k8\_afinsq\_1 X0) \quad (4)$$

Assume the following.

$$\forall X0.(v1\_relat\_1 X0) \Rightarrow (v1\_relat\_1 (k2\_relat\_1 X0)) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_relat\_1 X0) \Rightarrow (\forall X1.(v1\_relat\_1 X1) \Rightarrow ((X1 = \\ & k2\_relat\_1 X0) \Leftrightarrow (\forall X2.\forall X3.(k4\_tarski X2 X3 \in X1) \Leftrightarrow ( \\ & k4\_tarski X3 X2 \in X0)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & (k8\_afinsq\_1 X0) (k8\_afinsq\_1 X0)))) \Rightarrow (\forall X2. (m1\_subset\_1 \\ & X2 (k8\_afinsq\_1 X0)) \Rightarrow (\forall X3. (m1\_subset\_1 X3 (k8\_afinsq\_1 \\ & X0)) \Rightarrow ((r1\_rewrite2 X0 X1 X2 X3) \Leftrightarrow (k1\_domain\_1 (k8\_afinsq\_1 X0) \\ & (k8\_afinsq\_1 X0) X2 X3 \in X1)))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0. (v1\_relat\_1 X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (v1\_relat\_1 X1)) \quad (8)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & (k8\_afinsq\_1 X0) (k8\_afinsq\_1 X0)))) \Rightarrow (\forall X2. (m1\_subset\_1 \\ & X2 (k8\_afinsq\_1 X0)) \Rightarrow (\forall X3. (m1\_subset\_1 X3 (k8\_afinsq\_1 \\ & X0)) \Rightarrow (((v3\_relat\_2 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & (k8\_afinsq\_1 X0) (k8\_afinsq\_1 X0)))) \wedge (r1\_rewrite2 X0 X1 X2 X3)) \Rightarrow \\ & (r1\_rewrite2 X0 X1 X3 X2)))) \end{aligned}$$