

t45\_relset\_2  
(TMXnPFMiMcLczGhCzWtZaxjwzS9G93xzJBe)

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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  $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_relset\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1))) \Rightarrow (\forall X3.\forall X4.(\neg(\exists X5.\exists X6. \\ & (X5 \in X3) \wedge ((X6 \in X4) \wedge (X5 \in k1\_relset\_2 X1 X0 (k3\_relset\_1 X0 X1 X2) \\ & X6))) \wedge (r1\_xboole\_0 X4 (k7\_relset\_1 X0 X1 X2 X3))) \wedge (\neg(\neg r1\_xboole\_0 \\ & X4 (k7\_relset\_1 X0 X1 X2 X3))) \wedge (\forall X5.\forall X6.\neg(X5 \in X3) \wedge \\ & ((X6 \in X4) \wedge (X5 \in k1\_relset\_2 X1 X0 (k3\_relset\_1 X0 X1 X2) X6)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1))) \Rightarrow (\forall X3.\forall X4.(\neg(\neg r1\_xboole\_0 \\ & X3 (k7\_relset\_1 X1 X0 (k3\_relset\_1 X0 X1 X2) X4))) \wedge (\forall X5.\forall X6. \\ & \neg(X5 \in X3) \wedge ((X6 \in X4) \wedge (X5 \in k1\_relset\_2 X1 X0 (k3\_relset\_1 X0 X1 X2) \\ & X6)))) \wedge (\neg(\exists X5.\exists X6.(X5 \in X3) \wedge ((X6 \in X4) \wedge (X5 \in k1\_relset\_2 \\ & X1 X0 (k3\_relset\_1 X0 X1 X2) X6))) \wedge (r1\_xboole\_0 X3 (k7\_relset\_1 \\ & X1 X0 (k3\_relset\_1 X0 X1 X2) X4)))) \end{aligned} \quad (2)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (k1\_zfmisc\_1 X1)) \Rightarrow (\forall X4. \\ & (m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow ((r1\_xboole\_0 \\ & X2 (k7\_relset\_1 X1 X0 (k3\_relset\_1 X0 X1 X4) X3)) \Leftrightarrow (r1\_xboole\_0 X3 \\ & (k7\_relset\_1 X0 X1 X4 X2)))))) \end{aligned}$$