

t39\_rewrite1  
(TMdSvqrBLfQPWpxbXf54Yqg1f3aYJJ3ZMdC)

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Let  $r5\_rewrite1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $r6\_rewrite1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $r2\_rewrite1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_relat\_1 X0) \Rightarrow (\forall X1.\forall X2.((r5\_rewrite1 X0 X1 X2) \vee (r6\_rewrite1 X0 X1 X2)) \Rightarrow (r2\_rewrite1 X0 X1 X2)) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(r2\_rewrite1 k1\_xboole\_0 X0 X1) \Rightarrow (X0 = X1) \quad (2)$$

Assume the following.

$$v1\_xboole\_0 k1\_xboole\_0 \quad (3)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (v1\_relat\_1 X0) \quad (4)$$

**Theorem 1**

$$\forall X0.\forall X1.((r5\_rewrite1 k1\_xboole\_0 X0 X1) \vee (r6\_rewrite1 k1\_xboole\_0 X0 X1)) \Rightarrow (X0 = X1)$$