t28_rewrite1 (TMTz4BKtUbPxiG1SquNRoCrw1UFqnHerU6t)

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Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $r2\_rewrite1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_relat\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_relat\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_rewrite1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1\_relat\_1\ X0) \Rightarrow (k1\_relat\_1\ X0 = k1\_relat\_1\ (k2\_relat\_1\ X0)) \tag{1}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0) \Rightarrow (\forall X1.(v1\_relat\_1\ X1) \Rightarrow (k1\_relat\_1\ (k2\_xboole\_0\ X0\ X1) = k2\_xboole\_0\ (k1\_relat\_1\ X0)\ (k1\_relat\_1\ X1))) \tag{2}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0) \Rightarrow (\forall X1.\forall X2.(r1\_rewrite1\ X0\ X1\ X2) \Rightarrow ((X1 \in k1\_relat\_1\ X0) \vee (X1 = X2))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.k2\_xboole\_0\ X0\ X0 = X0 \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X0) \wedge (v1\_relat\_1\ X1)) \Rightarrow (v1\_relat\_1\ (k2\_xboole\_0\ X0\ X1)) \tag{5}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0) \Rightarrow (v1\_relat\_1\ (k2\_relat\_1\ X0)) \tag{6}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0) \Rightarrow (\forall X1.\forall X2.(r2\_rewrite1\ X0\ X1\ X2) \Leftrightarrow (r1\_rewrite1\ (k2\_xboole\_0\ X0\ (k2\_relat\_1\ X0))\ X1\ X2)) \tag{7}$$

Theorem 1

$$\forall X0.(v1\_relat\_1\ X0) \Rightarrow (\forall X1.\forall X2.(r2\_rewrite1\ X0\ X1\ X2) \Rightarrow ((X1 \in k1\_relat\_1\ X0) \vee (X1 = X2)))$$