t58_rewrite1 (TMTHgu12EJmcZ1p9zB8WnGB3BFisyDzTjsY)

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Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v7\_rewrite1 : \iota \Rightarrow o$ be given. Let $v6\_rewrite1 : \iota \Rightarrow o$ be given. Let $k18\_finseq\_1 : \iota \Rightarrow \iota$ be given. Let $r1\_rewrite1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r7\_rewrite1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r6\_rewrite1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r5\_rewrite1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_tarski : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1\_relat\_1\ X0) \Rightarrow (\forall X1.\forall X2.(r1\_rewrite1\ X0\ X1\ X2) \Leftrightarrow (r1\_rewrite1\ (k18\_finseq\_1\ X0)\ X1\ X2)) \tag{1}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0) \Rightarrow (\forall X1.\forall X2.(r1\_rewrite1\ X0\ X1\ X2) \Leftrightarrow ((X1 = X2) \vee (k4\_tarski\ X1\ X2 \in k18\_finseq\_1\ X0))) \tag{2}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0) \Rightarrow (v1\_relat\_1\ (k18\_finseq\_1\ X0)) \tag{3}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0) \Rightarrow (\forall X1.\forall X2.(r7\_rewrite1\ X0\ X1\ X2) \Leftrightarrow (\exists X3.((k4\_tarski\ X1\ X3 \in X0) \vee (X1 = X3)) \wedge ((k4\_tarski\ X2\ X3 \in X0) \vee (X2 = X3)))) \tag{4}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0) \Rightarrow (\forall X1.\forall X2.(r6\_rewrite1\ X0\ X1\ X2) \Leftrightarrow (\exists X3.(r1\_rewrite1\ X0\ X3\ X1) \wedge (r1\_rewrite1\ X0\ X3\ X2))) \tag{5}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0) \Rightarrow (\forall X1.\forall X2.(r5\_rewrite1\ X0\ X1\ X2) \Leftrightarrow (\exists X3.(r1\_rewrite1\ X0\ X1\ X3) \wedge (r1\_rewrite1\ X0\ X2\ X3))) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.k4\_tarski\ X0\ X1 = k2\_tarski\ (k2\_tarski\ X0\ X1)\ (k1\_tarski\ X0) \tag{7}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0)\Rightarrow((v7\_rewrite1\ X0)\Leftrightarrow(\forall X1.\forall X2.\ (r6\_rewrite1\ X0\ X1\ X2)\Rightarrow(r5\_rewrite1\ X0\ X1\ X2))) \tag{8}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0)\Rightarrow((v6\_rewrite1\ X0)\Leftrightarrow(\forall X1.\forall X2.\ \forall X3.((k4\_tarski\ X1\ X2 \in X0)\wedge(k4\_tarski\ X1\ X3 \in X0))\Rightarrow(r7\_rewrite1\ X0\ X2\ X3))) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.k2\_tarski\ X0\ X1 = k2\_tarski\ X1\ X0 \tag{10}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v6\_rewrite1\ X0))\Rightarrow((v1\_relat\_1\ X0)\wedge(v7\_rewrite1\ X0)) \tag{11}$$

Theorem 1

$$\forall X0.(v1\_relat\_1\ X0)\Rightarrow((v7\_rewrite1\ X0)\Leftrightarrow(v6\_rewrite1\ (\ k18\_finseq\_1\ X0)))$$