

t52_rewrite1
(TMN2KuNLA2C2YdAnCoUbmSSrQUpTpu47RUX)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v9_rewrite1 : \iota \Rightarrow o$ be given. Let $r10_rewrite1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r5_rewrite1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_rewrite1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.\forall X2.(r5_rewrite1 X0 X1 X2) \Leftrightarrow (\exists X3.(r1_rewrite1 X0 X1 X3) \wedge (r1_rewrite1 X0 X2 X3))) \quad (1)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow ((v9_rewrite1 X0) \Leftrightarrow (\forall X1.\forall X2.\forall X3.((k4_tarski X1 X2 \in X0) \wedge (k4_tarski X1 X3 \in X0)) \Rightarrow (r5_rewrite1 X0 X2 X3))) \quad (2)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.(v1_relat_1 X1) \Rightarrow ((r10_rewrite1 X0 X1) \Leftrightarrow (\forall X2.\forall X3.\forall X4.\neg(k4_tarski X2 X3 \in X0) \wedge ((k4_tarski X2 X4 \in X1) \wedge (\forall X5.\neg(r1_rewrite1 X1 X3 X5) \wedge (r1_rewrite1 X0 X4 X5)))))) \quad (3)$$

Theorem 1 $\forall X0.(v1_relat_1 X0) \Rightarrow ((v9_rewrite1 X0) \Leftrightarrow (r10_rewrite1 X0 X0)).$