

t53_rewrite1 (TM- Mgp5i8YChhLStrUt3aN3UCtkUyQGEccQU)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_rewrite1 : \iota \Rightarrow o$ be given. Let $r4_rewrite1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r5_rewrite1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r6_rewrite1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_rewrite1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_rewrite1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_rewrite1 : \iota \Rightarrow \iota \Rightarrow o$ 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.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.\forall X2.(r6_rewrite1 X0 X1 X2) \Leftrightarrow (\exists X3.(r1_rewrite1 X0 X3 X1) \wedge (r1_rewrite1 X0 X3 X2))) \quad (2)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.\forall X2.(r4_rewrite1 X0 X1 X2) \Leftrightarrow ((r3_rewrite1 X0 X2) \wedge (r1_rewrite1 X0 X1 X2))) \quad (3)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow ((v4_rewrite1 X0) \Leftrightarrow (\forall X1.\forall X2.((r3_rewrite1 X0 X1) \wedge ((r3_rewrite1 X0 X2) \wedge (r2_rewrite1 X0 X1 X2)))) \Rightarrow (X1 = X2))) \quad (4)$$

Theorem 1

$$\forall X0.((v1_relat_1 X0) \wedge (v4_rewrite1 X0)) \Rightarrow (\forall X1.\forall X2.\forall X3.((r4_rewrite1 X0 X1 X2) \wedge (r4_rewrite1 X0 X1 X3)) \Rightarrow (X2 = X3))$$