

t30_rewrite1

(TMLtTd2b62PNrnTA3iYH2Cg21upzgcgKYhs)

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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 $r1_rewrite1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_relat_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.\forall X2.\forall X3. \\ & ((r1_rewrite1 X0 X1 X2) \wedge (r1_rewrite1 X0 X2 X3)) \Rightarrow (r1_rewrite1 X0 \\ & \quad X1 X3)) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X0) \wedge (v1_relat_1 X1)) \Rightarrow (v1_relat_1 (k2_xboole_0 X0 X1)) \tag{2}$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (v1_relat_1 (k2_relat_1 X0)) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.\forall X2.(r2_rewrite1 \\ & X0 X1 X2) \Leftrightarrow (r1_rewrite1 (k2_xboole_0 X0 (k2_relat_1 X0)) X1 X2)) \end{aligned} \tag{4}$$

Theorem 1

$$\begin{aligned} & \forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.\forall X2.\forall X3. \\ & ((r2_rewrite1 X0 X1 X2) \wedge (r2_rewrite1 X0 X2 X3)) \Rightarrow (r2_rewrite1 X0 \\ & \quad X1 X3)) \end{aligned}$$