

t23_funct_5 (TM-
Pax54ve6tobDPSJ7AUGHZw8C9RQwSq91D)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k3_funct_5 : \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_funct_4 : \iota \Rightarrow \iota$ be given. Let $k1_funct_5 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((k9_xtuple_0 \\ (k9_xtuple_0 X0) = k10_xtuple_0 (k9_xtuple_0 (k2_funct_4 X0))) \wedge \\ (k10_xtuple_0 (k9_xtuple_0 X0) = k9_xtuple_0 (k9_xtuple_0 (k2_funct_4 \\ X0)))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v1_relat_1 (\\ k2_funct_4 X0)) \wedge (v1_funct_1 (k2_funct_4 X0))) \tag{2}$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v1_relat_1 (\\ k1_funct_5 X0)) \wedge (v1_funct_1 (k1_funct_5 X0))) \tag{3}$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (k3_funct_5 X0 = \\ k1_funct_5 (k2_funct_4 X0)) \tag{4}$$

Assume the following.

$$\begin{aligned} \forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. ((\\ v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((X1 = k1_funct_5 X0) \Leftrightarrow ((k9_xtuple_0 \\ X1 = k9_xtuple_0 (k9_xtuple_0 X0)) \wedge (\forall X2. \neg (X2 \in k9_xtuple_0 \\ (k9_xtuple_0 X0)) \wedge (\forall X3. ((v1_relat_1 X3) \wedge (v1_funct_1 \\ X3)) \Rightarrow (\neg (k1_funct_1 X1 X2 = X3) \wedge ((k9_xtuple_0 X3 = k10_xtuple_0 \\ (k3_xboole_0 (k9_xtuple_0 X0) (k2_zfmisc_1 (k1_tarski X2) (k10_xtuple_0 \\ (k9_xtuple_0 X0)))))) \wedge (\forall X4. (X4 \in k9_xtuple_0 X3) \Rightarrow (k1_funct_1 \\ X3 X4 = k1_binop_1 X0 X2 X4)))))))))) \end{aligned} \tag{5}$$

Theorem 1

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (k9_xtuple_0 (k3_funct_5 X0) = k10_xtuple_0 (k9_xtuple_0 X0))$$