

t32_funct_5 (TMbpLRuPLtsnUH- Nry7ogFQWiB57t6KVS9S4)

October 27, 2020

Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_5 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_funct_4 : \iota \Rightarrow \iota$ be given. Let $k1_funct_5 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (k2_zfmisc_1 X0 X1 = k1_xboole_0) \Leftrightarrow ((X0 = k1_xboole_0) \vee (X1 = k1_xboole_0)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. (k4_tarski X0 X1 \in k2_zfmisc_1 X2 X3) \Leftrightarrow ((X0 \in X2) \wedge (X1 \in X3)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((k9_xtuple_0 X2 = k2_zfmisc_1 X0 X1) \Rightarrow (k9_xtuple_0 (k2_funct_4 X2) = k2_zfmisc_1 X1 X0)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((k4_tarski X0 X1 \in k9_xtuple_0 (k2_funct_4 X2)) \Rightarrow (k1_binop_1 (k2_funct_4 X2) X0 X1 = k1_binop_1 X2 X1 X0)) \quad (4)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (r1_tarski (k10_xtuple_0 (k2_funct_4 X0)) (k10_xtuple_0 X0)) \quad (5)$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((v1_relat_1 X3)\wedge \\
& (v1_funct_1 X3))\Rightarrow(\neg(k2_zfmisc_1 X0 X1\neq k1_xboole_0)\wedge((k9_xtuple_0 \\
& X3 = k2_zfmisc_1 X0 X1)\wedge((X2 \in X0)\wedge(\forall X4.((v1_relat_1 X4)\wedge \\
& (v1_funct_1 X4))\Rightarrow(\neg(k1_funct_1 (k1_funct_5 X3) X2 = X4)\wedge((k9_xtuple_0 \\
& X4 = X1)\wedge((r1_tarski (k10_xtuple_0 X4) (k10_xtuple_0 X3))\wedge(\forall X5. \\
& (X5 \in X1)\Rightarrow(k1_funct_1 X4 X5 = k1_binop_1 X3 X2 X5))))))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((r1_tarski X0 X1)\wedge(r1_tarski X1 X2))\Rightarrow(r1_tarski X0 X2) \tag{7}$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge(v1_funct_1 X0))\Rightarrow((v1_relat_1 (k2_funct_4 X0))\wedge(v1_funct_1 (k2_funct_4 X0))) \tag{8}$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge(v1_funct_1 X0))\Rightarrow(k3_funct_5 X0 = k1_funct_5 (k2_funct_4 X0)) \tag{9}$$

Theorem 1

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((v1_relat_1 X3)\wedge \\
& (v1_funct_1 X3))\Rightarrow(\neg(k2_zfmisc_1 X0 X1\neq k1_xboole_0)\wedge((k9_xtuple_0 \\
& X3 = k2_zfmisc_1 X0 X1)\wedge((X2 \in X1)\wedge(\forall X4.((v1_relat_1 X4)\wedge \\
& (v1_funct_1 X4))\Rightarrow(\neg(k1_funct_1 (k3_funct_5 X3) X2 = X4)\wedge((k9_xtuple_0 \\
& X4 = X0)\wedge((r1_tarski (k10_xtuple_0 X4) (k10_xtuple_0 X3))\wedge(\forall X5. \\
& (X5 \in X0)\Rightarrow(k1_funct_1 X4 X5 = k1_binop_1 X3 X5 X2))))))))))
\end{aligned}$$