

t69_funcop_1 (TMbQJBYSU- JMfe1mN5pr913kWR8ESvvDg2QN)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k3_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13_funct_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (r1_tarski (k10_xtuple_0 (k13_funct_3 X0 X1)) (k2_zfmisc_1 (k10_xtuple_0 X0) (k10_xtuple_0 X1)))) \quad (1)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.(v1_relat_1 X1) \Rightarrow ((r1_tarski (k10_xtuple_0 X0) (k9_xtuple_0 X1)) \Rightarrow (k9_xtuple_0 (k3_relat_1 X0 X1) = k9_xtuple_0 X0))) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((r1_tarski X0 X1) \wedge (r1_tarski X1 X2)) \Rightarrow (r1_tarski X0 X2) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \wedge ((v1_relat_1 X1) \wedge (v1_funct_1 X1))) \Rightarrow ((v1_relat_1 (k13_funct_3 X0 X1)) \wedge (v1_funct_1 (k13_funct_3 X0 X1))) \quad (4)$$

Assume the following.

$$\forall X0.(((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.(((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2.(((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((X2 = k13_funct_3 X0 X1) \Leftrightarrow ((k9_xtuple_0 X2 = k3_xboole_0 (k9_xtuple_0 X0) (k9_xtuple_0 X1)) \wedge (\forall X3.(X3 \in k9_xtuple_0 X2) \Rightarrow (k1_funct_1 X2 X3 = k4_tarski (k1_funct_1 X0 X3) (k1_funct_1 X1 X3)))))))))) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.((\\ & \quad v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2.((v1_relat_1 X2) \wedge \\ & (v1_funct_1 X2)) \Rightarrow (k3_funcop_1 X0 X1 X2 = k3_relat_1 (k13_funct_3 \\ & \quad X1 X2) X0))) \end{aligned} \tag{6}$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.((\\ & \quad v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2.((v1_relat_1 X2) \wedge \\ & (v1_funct_1 X2)) \Rightarrow ((r1_tarski (k2_zfmisc_1 (k10_xtuple_0 X1) \\ & (k10_xtuple_0 X2)) (k9_xtuple_0 X0)) \Rightarrow (k9_xtuple_0 (k3_funcop_1 \\ & X0 X1 X2) = k3_xboole_0 (k9_xtuple_0 X1) (k9_xtuple_0 X2)))))) \end{aligned}$$