

t18_binop_1 (TMdxHcuxyfUhnho- tYShqo7AQUVDw2PpSbxp)

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Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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.

$$\forall X0.\forall X1.\forall X2.\forall X3.(k4_tarski\ X0\ X1 \in k2_zfmisc_1\ X2\ X3) \Leftrightarrow ((X0 \in X2) \wedge (X1 \in X3)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1\ X3) \wedge \\ & ((v1_funct_2\ X3\ X0\ X1) \wedge (m1_subset_1\ X3\ (k1_zfmisc_1\ (k2_zfmisc_1 \\ & \quad X0\ X1)))))) \Rightarrow (\forall X4.((v1_relat_1\ X4) \wedge (v1_funct_1\ X4)) \Rightarrow ((\\ & X2 \in X0) \Rightarrow ((X1 = k1_xboole_0) \vee (k1_funct_1\ (k3_relat_1\ X3\ X4)\ X2 = \\ & \quad k1_funct_1\ X4\ (k1_funct_1\ X3\ X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.(((v1_relat_1\ X0) \wedge (v1_funct_1\ X0)) \wedge ((v1_relat_1\ X1) \wedge (v1_funct_1\ X1))) \Rightarrow ((v1_relat_1\ (k3_relat_1\ X0\ X1)) \wedge (v1_funct_1\ (k3_relat_1\ X0\ X1))) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.v1_relat_1\ (k3_relat_1\ X0\ X1) \quad (4)$$

Assume the following.

$$\forall X0.((v1_relat_1\ X0) \wedge (v1_funct_1\ X0)) \Rightarrow (\forall X1.\forall X2.k1_binop_1\ X0\ X1\ X2 = k1_funct_1\ X0\ (k4_tarski\ X1\ X2)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1))) \Rightarrow (v1_relat_1\ X2) \quad (6)$$

Theorem 1

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & ((v1_funct_1 X5) \wedge ((v1_funct_2 X5 (k2_zfmisc_1 X2 X3) X4) \wedge (m1_subset_1 \\ & \quad X5 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X2 X3) X4)))))) \Rightarrow (\forall X6. \\ & ((v1_relat_1 X6) \wedge (v1_funct_1 X6)) \Rightarrow (((X0 \in X2) \wedge (X1 \in X3)) \Rightarrow ((X4 = \\ & \quad k1_xboole_0) \vee (k1_binop_1 (k3_relat_1 X5 X6) X0 X1 = k1_funct_1 \\ & \quad X6 (k1_binop_1 X5 X0 X1)))))) \end{aligned}$$