

t17_binop_1
(TMcEjbr7VCxaQV6zEUEfTyfQ6DBeg58FNyG)

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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 $k1_xboole_0 : \iota$ 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 $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ 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.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((v1_funct_1\ X3) \wedge ((v1_funct_2\ X3\ X0\ X1) \wedge (m1_subset_1\ X3\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))))) \Rightarrow ((X2 \in X0) \Rightarrow ((X1 = k1_xboole_0) \vee (k1_funct_1\ X3\ X2 \in X1))) \quad (2)$$

Assume the following.

$$\forall X0. ((v1_relat_1\ X0) \wedge (v1_funct_1\ X0)) \Rightarrow (\forall X1. \forall X2. k1_binop_1\ X0\ X1\ X2 = k1_funct_1\ X0\ (k4_tarski\ X1\ X2)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1))) \Rightarrow (v1_relat_1\ X2) \quad (4)$$

Theorem 1

$$\forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. ((v1_funct_1\ X5) \wedge ((v1_funct_2\ X5\ (k2_zfmisc_1\ X0\ X1)\ X2) \wedge (m1_subset_1\ X5\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)\ X2)))))) \Rightarrow (((X3 \in X0) \wedge (X4 \in X1)) \Rightarrow ((X2 = k1_xboole_0) \vee (k1_binop_1\ X5\ X3\ X4 \in X2)))$$