

t20_funct_3 (TM- SPETF54HP3Xy3KqJExuzFDafzbsRJgM53)

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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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k1_funct_3 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_relat_1 : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski X0 X1) \Rightarrow (r1_tarski (k1_zfmisc_1 X0) (k1_zfmisc_1 X1)) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(v1_relat_1 X2) \Rightarrow (((r1_tarski (k9_xtuple_0 X2) X0) \wedge (r1_tarski (k10_xtuple_0 X2) X1)) \Rightarrow (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (6)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v1_funct_1 (k1_funct_3 X0)) \wedge ((v1_funct_2 (k1_funct_3 X0) (k1_zfmisc_1 (k9_xtuple_0 X0)) (k1_zfmisc_1 (k10_xtuple_0 X0))) \wedge (m1_subset_1 (k1_funct_3 X0) (k1_zfmisc_1 (k2_zfmisc_1 (k1_zfmisc_1 (k9_xtuple_0 X0)) (k1_zfmisc_1 (k10_xtuple_0 X0))))))) \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (8)$$

Assume the following.

$$\forall X0. \exists X1. (v1_relat_1 X1) \wedge ((v2_relat_1 X1) \wedge ((v4_relat_1 X1 X0) \wedge (v1_funct_1 X1))) \quad (9)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (10)$$

Assume the following.

$$\forall X0. \neg v1_xboole_0 (k1_zfmisc_1 X0) \quad (11)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (v1_xboole_0 (k10_xtuple_0 X0)) \quad (12)$$

Assume the following.

$$\forall X0. (v1_xboole_0 X0) \Rightarrow (v1_xboole_0 (k9_xtuple_0 X0)) \quad (13)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (m1_subset_1 (k1_relset_1 X0 X1) (k1_zfmisc_1 X0)) \quad (14)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v1_relat_1 (k1_funct_3 X0)) \wedge (v1_funct_1 (k1_funct_3 X0))) \quad (15)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (((X1 \neq k1_xboole_0) \Rightarrow ((v1_funct_2 X2 X0 X1) \Leftrightarrow (X0 = k1_relset_1 X0 X2))) \wedge ((X1 = k1_xboole_0) \Rightarrow ((v1_funct_2 X2 X0 X1) \Leftrightarrow (X2 = k1_xboole_0)))) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.(v1_relat_1 X1)\Rightarrow((v5_relat_1 X1 X0)\Leftrightarrow(r1_tarSKI (k10_xtuple_0 X1) X0)) \quad (17)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Rightarrow(\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow((v1_xboole_0 X1)\wedge((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0)))) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (20)$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v1_funct_1 X2)\wedge((v1_funct_2 \\ & X2 X0 X1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))\Rightarrow \\ & (((X1 = k1_xboole_0)\Rightarrow(X0 = k1_xboole_0))\Rightarrow((v1_funct_1 (k1_funct_3 \\ & X2))\wedge((v1_funct_2 (k1_funct_3 X2) (k1_zfmisc_1 X0) (k1_zfmisc_1 \\ & X1))\wedge(m1_subset_1 (k1_funct_3 X2) (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k1_zfmisc_1 X0) (k1_zfmisc_1 X1))))))) \end{aligned}$$