

t2.boolmark (TMQW-
cLy74JbyCMSRbhdc493sHtUz4yF3yWh)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.(v1_relat_1 X1) \Rightarrow (k9_xtuple_0 (k5_relat_1 X1 X0) = k3_xboole_0 (k9_xtuple_0 X1) X0) \quad (2)$$

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.

$$\forall X0.\forall X1.(\neg(\neg r1_xboole_0 X0 X1) \wedge (\forall X2.\neg(X2 \in X0) \wedge (X2 \in X1))) \wedge (\neg(\exists X2.(X2 \in X0) \wedge (X2 \in X1)) \wedge (r1_xboole_0 X0 X1)) \quad (4)$$

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.

$$\forall X0.\forall X1.(r1_tarski\ X0\ X1)\Rightarrow(k3_xboole_0\ X0\ X1 = X0) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((r1_tarski\ X0\ X1)\wedge(r1_tarski\ X1\ X2))\Rightarrow(r1_tarski\ X0\ X2) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(\neg v1_xboole_0\ X1)\Rightarrow(\forall X2.(m1_subset_1 \\ X2\ (k1_zfmisc_1\ X0))\Rightarrow(\forall X3.((v1_funct_1\ X3)\wedge((v1_funct_2 \\ X3\ X0\ X1)\wedge(m1_subset_1\ X3\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1))))\Rightarrow \\ (k9_xtuple_0\ (k2_partfun1\ X0\ X1\ X3\ X2) = X2))) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.r1_tarski\ (k3_xboole_0\ X0\ X1)\ X0 \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.r1_tarski\ X0\ X0 \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1\ X2)\wedge \\ (m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1))))\Rightarrow(k2_partfun1 \\ X0\ X1\ X2\ X3 = k5_relat_1\ X2\ X3) \end{aligned} \quad (12)$$

Assume the following.

$$v1_xboole_0\ k1_xboole_0 \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1\ X0)\wedge(v1_funct_1\ X0))\Rightarrow(\forall X1.\forall X2. \\ (X2 = k7_relat_1\ X0\ X1)\Leftrightarrow(\forall X3.(X3 \in X2)\Leftrightarrow(\exists X4.(X4 \in k9_xtuple_0 \\ X0)\wedge((X4 \in X1)\wedge(X3 = k1_funct_1\ X0\ X4)))) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1)\Leftrightarrow((r1_tarski\ X0\ X1)\wedge(r1_tarski\ X1\ X0)) \quad (15)$$

Assume the following.

$$\forall X0.(v1_xboole_0\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ X0))\Rightarrow(v1_xboole_0\ X1)) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow(v1_relat_1\ X2) \quad (17)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow (\forall X3.(m1_subset_1 \\ & X3 (k1_zfmisc_1 X0)) \Rightarrow (\forall X4.((v1_funct_1 X4) \wedge ((v1_funct_2 \\ & X4 X0 X1) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow \\ & ((r1_xboole_0 (k7_relat_1 X4 X2) (k7_relat_1 X4 X3)) \Rightarrow (r1_xboole_0 \\ & X2 X3)))))) \end{aligned}$$