

t15_real_lat
(TMJYRt1HqRCe1MjKffG5jd2BiZyRm9nrAac)

October 27, 2020

Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k9_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funcsdom : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_real_lat : \iota \Rightarrow \iota$ be given. Let $k5_real_lat : \iota \Rightarrow \iota$ be given. 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 $m1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m2_funct_2 X1 X0 k1_numbers \\ (k9_funct_2 X0 k1_numbers)) \Rightarrow (\forall X2.(m2_funct_2 X2 X0 k1_numbers \\ (k9_funct_2 X0 k1_numbers)) \Rightarrow (r2_funct_2 X0 k1_numbers (k1_funcsdom \\ X0 k1_numbers (k5_real_lat X0) X1 X2) (k1_funcsdom X0 k1_numbers \\ (k5_real_lat X0) X2 X1)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m2_funct_2 X1 X0 k1_numbers \\ (k9_funct_2 X0 k1_numbers)) \Rightarrow (\forall X2.(m2_funct_2 X2 X0 k1_numbers \\ (k9_funct_2 X0 k1_numbers)) \Rightarrow (r2_funct_2 X0 k1_numbers (k1_funcsdom \\ X0 k1_numbers (k4_real_lat X0) X1 (k1_funcsdom X0 k1_numbers (k5_real_lat \\ X0) X1 X2)) X1))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.(((v1_funct_1 X2) \wedge \\ ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ X0 X1)))))) \wedge ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X0 X1) \wedge (m1_subset_1 \\ X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow ((r2_funct_2 X0 X1 X2 \\ X3) \Leftrightarrow (X2 = X3)) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X1)\wedge(m1_funct_2 X2 X0 X1))\Rightarrow(\forall X3.(m2_funct_2 X3 X0 X1 X2)\Leftrightarrow(m1_subset_1 X3 X2)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((\neg v1_xboole_0 X1)\wedge(((v1_funct_1 X2)\wedge((v1_funct_2 X2 (k2_zfmisc_1 (k9_funct_2 X0 X1) (k9_funct_2 X0 X1)) (k9_funct_2 X0 X1))\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (k9_funct_2 X0 X1) (k9_funct_2 X0 X1)) (k9_funct_2 X0 X1))))))\wedge((m1_subset_1 X3 (k9_funct_2 X0 X1))\wedge(m1_subset_1 X4 (k9_funct_2 X0 X1))))))\Rightarrow(k1_funcsdom X0 X1 X2 X3 X4 = k1_binop_1 X2 X3 X4) \quad (5)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X1)\wedge(m1_funct_2 X2 X0 X1))\Rightarrow(\forall X3.(m2_funct_2 X3 X0 X1 X2)\Rightarrow((v1_funct_1 X3)\wedge((v1_funct_2 X3 X0 X1)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(\neg v1_xboole_0 X1)\Rightarrow(m1_funct_2 (k9_funct_2 X0 X1) X0 X1) \quad (8)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0)\Rightarrow(((v1_funct_1 (k5_real_lat X0))\wedge((v1_funct_2 (k5_real_lat X0) (k2_zfmisc_1 (k9_funct_2 X0 k1_numbers) (k9_funct_2 X0 k1_numbers)) (k9_funct_2 X0 k1_numbers))\wedge(m1_subset_1 (k5_real_lat X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (k9_funct_2 X0 k1_numbers) (k9_funct_2 X0 k1_numbers)) (k9_funct_2 X0 k1_numbers)))))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((\neg v1_xboole_0 X1)\wedge(((v1_funct_1 X2)\wedge((v1_funct_2 X2 (k2_zfmisc_1 (k9_funct_2 X0 X1) (k9_funct_2 X0 X1)) (k9_funct_2 X0 X1))\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (k9_funct_2 X0 X1) (k9_funct_2 X0 X1)) (k9_funct_2 X0 X1))))))\wedge((m1_subset_1 X3 (k9_funct_2 X0 X1))\wedge(m1_subset_1 X4 (k9_funct_2 X0 X1))))))\Rightarrow(m2_funct_2 (k1_funcsdom X0 X1 X2 X3 X4) X0 X1 (k9_funct_2 X0 X1)) \quad (10)$$

Theorem 1

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m2_funct_2 X1 X0 k1_numbers \\ (k9_funct_2 X0 k1_numbers)) \Rightarrow (\forall X2.(m2_funct_2 X2 X0 k1_numbers \\ (k9_funct_2 X0 k1_numbers)) \Rightarrow (r2_funct_2 X0 k1_numbers (k1_funcsdom \\ X0 k1_numbers (k4_real_lat X0) X1 (k1_funcsdom X0 k1_numbers (k5_real_lat \\ X0) X2 X1)) X1))) \end{aligned}$$