

t72_funct_5
(TMFgyozNbtSZY8ZCA9CPQefZz57UV5Q7afG)

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Let $v1_xboole_0 : \iota \Rightarrow o$ 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 $k9_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k13_funct_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_funct_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k11_funct_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow \\ & \quad (\forall X2.(\neg v1_xboole_0 X2) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge \\ & ((v1_funct_2 X3 X0 (k9_funct_2 X1 X2)) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 (k9_funct_2 X1 X2)))))) \Rightarrow (r2_funct_2 X0 (k9_funct_2 \\ & X1 X2) (k11_funct_5 X0 X1 X2 (k13_funct_5 X0 X1 X2 X3)) X3)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow \\ & \quad (\forall X2.(\neg v1_xboole_0 X2) \Rightarrow (\forall X3.(m1_subset_1 X3 X0) \Rightarrow \\ & \quad (\forall X4.(m1_subset_1 X4 X1) \Rightarrow (\forall X5.((v1_funct_1 X5) \wedge \\ & ((v1_funct_2 X5 (k2_zfmisc_1 X0 X1) X2) \wedge (m1_subset_1 X5 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X1) X2)))))) \Rightarrow (k2_binop_1 X0 X1 X2 X5 \\ & X3 X4 = k3_funct_2 X1 X2 (k10_funct_5 X0 X1 X2 (k9_funct_2 X1 X2) (k11_funct_5 \\ & X0 X1 X2 X5) X3) X4)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & \quad ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X2) \wedge ((m1_funct_2 X3 X1 X2) \wedge \\ & (((v1_funct_1 X4) \wedge ((v1_funct_2 X4 X0 X3) \wedge (m1_subset_1 X4 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X3)))))) \wedge (m1_subset_1 X5 X0)))))) \Rightarrow (k10_funct_5 \\ & X0 X1 X2 X3 X4 X5 = k1_funct_1 X4 X5) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(\neg v1_xboole_0 X1)\Rightarrow(m1_funct_2 (k9_funct_2 X0 X1) X0 X1) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge \\ & ((\neg v1_xboole_0 X1)\wedge((\neg v1_xboole_0 X2)\wedge((v1_funct_1 X3)\wedge((v1_funct_2 \\ & X3 X0 (k9_funct_2 X1 X2))\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 (k9_funct_2 X1 X2))))))))\Rightarrow((v1_funct_1 (k13_funct_5 X0 X1 \\ & X2 X3))\wedge((v1_funct_2 (k13_funct_5 X0 X1 X2 X3) (k2_zfmisc_1 X0 X1 \\ & X2))\wedge(m1_subset_1 (k13_funct_5 X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1) X2)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge \\ & ((\neg v1_xboole_0 X1)\wedge((\neg v1_xboole_0 X2)\wedge((v1_funct_1 X3)\wedge((v1_funct_2 \\ & X3 (k2_zfmisc_1 X0 X1) X2)\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1) X2))))))))\Rightarrow((v1_funct_1 (k11_funct_5 X0 X1 \\ & X2 X3))\wedge((v1_funct_2 (k11_funct_5 X0 X1 X2 X3) X0 (k9_funct_2 X1 \\ & X2))\wedge(m1_subset_1 (k11_funct_5 X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 (k9_funct_2 X1 X2)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v1_funct_1 X2)\wedge((v1_funct_2 \\ & X2 X0 X1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow \\ & (\forall X3.((v1_funct_1 X3)\wedge((v1_funct_2 X3 X0 X1)\wedge(m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow((r2_funct_2 X0 X1 X2 X3)\Leftrightarrow \\ & (\forall X4.(m1_subset_1 X4 X0)\Rightarrow(k1_funct_1 X2 X4 = k1_funct_1 \\ & X3 X4)))) \end{aligned} \quad (7)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.(\neg v1_xboole_0 X1)\Rightarrow \\ & (\forall X2.(\neg v1_xboole_0 X2)\Rightarrow(\forall X3.((v1_funct_1 X3)\wedge \\ & ((v1_funct_2 X3 X0 (k9_funct_2 X1 X2))\wedge(m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 (k9_funct_2 X1 X2))))))\Rightarrow(\forall X4.(m1_subset_1 \\ & X4 X0)\Rightarrow(\forall X5.(m1_subset_1 X5 X1)\Rightarrow(k2_binop_1 X0 X1 X2 (k13_funct_5 \\ & X0 X1 X2 X3) X4 X5 = k3_funct_2 X1 X2 (k10_funct_5 X0 X1 X2 (k9_funct_2 \\ & X1 X2) X3 X4) X5)))))) \end{aligned}$$