

t21_prob_4
(TMQVWfGd9B1z7x1U2ymjCPZPxwoLzHy61dL)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_prob_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_prob_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k5_numbers : \iota$ be given. Let $k9_setfam_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_prob_1 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_prob_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_prob_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers \\ & (k9_setfam_1 X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k5_numbers (k9_setfam_1 X0)))))) \Rightarrow ((v3_prob_1 X1) \Rightarrow (\forall X2. \\ & (m2_subset_1 X2 k1_numbers k5_numbers) \Rightarrow (r1_xboole_0 (k1_prob_4 \\ & X0 (k9_setfam_1 X0) (k3_prob_3 X0 X1) (k2_nat_1 X2 np_1)) (k1_prob_4 \\ & X0 (k9_setfam_1 X0) X1 X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0. k9_setfam_1 X0 = k1_zfmisc_1 X0 \tag{4}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((\neg v1_xboole_0 \\ & X1)\wedge((v1_prob_1 X1 X0)\wedge((v4_prob_1 X1 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\ & (k1_zfmisc_1 X0))))))\wedge(((v5_relat_1 X2 X1)\wedge((v1_funct_1 X2)\wedge \\ & ((v1_funct_2 X2 k5_numbers (k9_setfam_1 X0))\wedge(m1_subset_1 X2 \\ & (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k9_setfam_1 X0))))))\wedge \\ & (m1_subset_1 X3 k5_numbers)))\Rightarrow(k1_prob_4 X0 X1 X2 X3 = k1_funct_1 \\ & X2 X3) \end{aligned} \quad (6)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1)\wedge(v3_ordinal1 k4_ordinal1) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v1_xboole_0 X1)\wedge((v1_prob_1 \\ & X1 X0)\wedge((v4_prob_1 X1 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 \\ & X0))))))\wedge(((v5_relat_1 X2 X1)\wedge((v1_funct_1 X2)\wedge((v1_funct_2 \\ & X2 k5_numbers (k9_setfam_1 X0))\wedge(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 k5_numbers (k9_setfam_1 X0))))))\wedge \\ & (k3_prob_3 X0 X2) X1)\wedge((v1_funct_1 (k3_prob_3 X0 X2))\wedge(v1_funct_2 \\ & (k3_prob_3 X0 X2) k5_numbers (k9_setfam_1 X0)))) \Rightarrow ((v5_relat_1 \\ & (k3_prob_3 X0 X2) X1)\wedge((v1_funct_1 (k3_prob_3 X0 X2))\wedge(v1_funct_2 \\ & (k3_prob_3 X0 X2) k5_numbers (k9_setfam_1 X0)))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.v4_prob_1 (k1_zfmisc_1 X0) X0 \quad (9)$$

Assume the following.

$$\forall X0.v1_prob_1 (k1_zfmisc_1 X0) X0 \quad (10)$$

Assume the following.

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

Assume the following.

$$\forall X0.m1_subset_1 (k9_setfam_1 X0) (k1_zfmisc_1 (k1_zfmisc_1 X0)) \quad (12)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v1_funct_1 X1)\wedge((v1_funct_2 X1 k5_numbers \\ (k9_setfam_1 X0))\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ k5_numbers (k9_setfam_1 X0))))))\Rightarrow((v1_funct_1 (k3_prob_3 X0 \\ X1))\wedge((v1_funct_2 (k3_prob_3 X0 X1) k5_numbers (k9_setfam_1 X0))\wedge \\ (m1_subset_1 (k3_prob_3 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers \\ (k9_setfam_1 X0)))))) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k5_numbers)\wedge(v7_ordinal1 X1))\Rightarrow(m2_subset_1 (k2_nat_1 X0 X1) k1_numbers k5_numbers) \quad (15)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1)\Rightarrow(v7_ordinal1 X0) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \quad (17)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(v1_xboole_0 X1)) \quad (18)$$

Theorem 1

$$\begin{aligned} \forall X0.\forall X1.((\neg v1_xboole_0 X1)\wedge((v1_prob_1 X1 X0)\wedge \\ ((v4_prob_1 X1 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k1_zfmisc_1 \\ X0))))))\Rightarrow(\forall X2.((v5_relat_1 X2 X1)\wedge((v1_funct_1 X2)\wedge(\\ (v1_funct_2 X2 k5_numbers (k9_setfam_1 X0))\wedge(m1_subset_1 X2 (\\ k1_zfmisc_1 (k2_zfmisc_1 k5_numbers (k9_setfam_1 X0))))))\Rightarrow \\ ((v3_prob_1 X2)\Rightarrow(\forall X3.(m2_subset_1 X3 k1_numbers k5_numbers)\Rightarrow \\ (r1_xboole_0 (k1_prob_4 X0 X1 (k3_prob_3 X0 X2) (k2_nat_1 X3 np_1)) \\ (k1_prob_4 X0 X1 X2 X3)))))) \end{aligned}$$