

t40_mesfunc6 (TMU AiNFB- JXnS2xGGZdtW5tzCaRFc3GzabCr)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ 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 $k1_numbers : \iota$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k19_rfunct_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $k18_rfunct_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_valued_0 : \iota \Rightarrow o$ be given. Let $k12_supinf_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $k2_rfunct_3 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (\\ & m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \Rightarrow (\\ & \forall X2. ((X2 \in k1_relset_1 X0 X1) \wedge (k1_seq_1 (k18_rfunct_3 X0 \\ & X1) X2 = k6_numbers)) \Rightarrow (k1_seq_1 (k19_rfunct_3 X0 X1) X2 = k1_real_1 \\ & (k1_seq_1 X1 X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (\\ & m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \Rightarrow (\\ & \forall X2. ((X2 \in k1_relset_1 X0 X1) \wedge (k1_seq_1 (k18_rfunct_3 X0 \\ & X1) X2 = k1_seq_1 X1 X2)) \Rightarrow (k1_seq_1 (k19_rfunct_3 X0 X1) X2 = k6_numbers))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (\\ & m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \Rightarrow (\\ & \forall X2. (X2 \in k1_relset_1 X0 X1) \Rightarrow (((k1_seq_1 (k18_rfunct_3 \\ & X0 X1) X2 = k1_seq_1 X1 X2) \vee (k1_seq_1 (k18_rfunct_3 X0 X1) X2 = k6_numbers)) \wedge \\ & ((k1_seq_1 (k19_rfunct_3 X0 X1) X2 = k1_real_1 (k1_seq_1 X1 X2)) \vee \\ & (k1_seq_1 (k19_rfunct_3 X0 X1) X2 = k6_numbers)))))) \end{aligned} \tag{3}$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v3_valued_0 X0)))\Rightarrow(k1_seq_1 X0 X1 = k1_funct_1 X0 X1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v2_valued_0 X0)))\Rightarrow(k12_supinf_2 X0 X1 = k1_funct_1 X0 X1) \quad (6)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(k1_real_1 (k1_real_1 X0) = X0) \quad (7)$$

Assume the following.

$$v3_membered k1_numbers \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v3_valued_0 X0)))\Rightarrow(m1_subset_1 (k1_seq_1 X0 X1) k1_numbers) \quad (9)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_funct_1 X1)\wedge(\\ &m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers))))))\Rightarrow \\ &((v1_funct_1 (k19_rfunct_3 X0 X1))\wedge(m1_subset_1 (k19_rfunct_3 \\ &X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \quad (10) \end{aligned}$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_funct_1 X1)\wedge(\\ &m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers))))))\Rightarrow \\ &((v1_funct_1 (k18_rfunct_3 X0 X1))\wedge(m1_subset_1 (k18_rfunct_3 \\ &X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \quad (11) \end{aligned}$$

Assume the following.

$$k1_xboole_0 = the (\lambda X0 : \iota.v1_xboole_0 X0) \quad (12)$$

Assume the following.

$$\begin{aligned} &\forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((v1_funct_1 X1)\wedge(\\ &m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers))))\Rightarrow(\\ &\forall X2.((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ &X0 k1_numbers))))\Rightarrow((X2 = k19_rfunct_3 X0 X1)\Leftrightarrow((k1_relset_1 X0 \\ &X2 = k1_relset_1 X0 X1)\wedge(\forall X3.(m1_subset_1 X3 X0)\Rightarrow((X3 \in k1_relset_1 \\ &X0 X2)\Rightarrow(k1_seq_1 X2 X3 = k2_rfunct_3 (k1_seq_1 X1 X3)))))) \quad (13) \end{aligned}$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v3_valued_0 X0)) \Rightarrow ((v1_relat_1 X0) \wedge (v2_valued_0 X0)) \quad (14)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2) \quad (15)$$

Assume the following.

$$\forall X0. \forall X1. (v3_membered X1) \Rightarrow (\forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v3_valued_0 X2)) \quad (16)$$

Theorem 1

$$\begin{aligned} \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (\\ m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 X0 k1_numbers)))) \Rightarrow (\\ \forall X2. ((X2 \in k1_relset_1 X0 X1) \wedge (k1_seq_1 (k19_rfunct_3 X0 \\ X1) X2 = k1_real_1 (k1_seq_1 X1 X2))) \Rightarrow (k1_seq_1 (k18_rfunct_3 X0 \\ X1) X2 = k6_numbers))) \end{aligned}$$