

t12_real_3 (TM-
PDSOmmhebj94ZkJvHbMdysKh5MQZMHc8m)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k2_real_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k3_nat_d : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_real_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ 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 $k4_nat_d : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v7_ordinal1 X0) \wedge (v7_ordinal1 X1)) \Rightarrow (\\ & (v1_funct_1 (k2_real_3 X0 X1)) \wedge ((v1_funct_2 (k2_real_3 X0 X1) \\ & k5_numbers k5_numbers) \wedge (m1_subset_1 (k2_real_3 X0 X1) (k1_zfmisc_1 \\ & (k2_zfmisc_1 k5_numbers k5_numbers)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v7_ordinal1 X0) \wedge (v7_ordinal1 X1)) \Rightarrow (\\ & (v1_funct_1 (k1_real_3 X0 X1)) \wedge ((v1_funct_2 (k1_real_3 X0 X1) \\ & k5_numbers k5_numbers) \wedge (m1_subset_1 (k1_real_3 X0 X1) (k1_zfmisc_1 \\ & (k2_zfmisc_1 k5_numbers k5_numbers)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. (v7_ordinal1 X0) \Rightarrow (\forall X1. (v7_ordinal1 X1) \Rightarrow (\forall X2. \\ & ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 k5_numbers k5_numbers) \wedge (m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k5_numbers)))))) \Rightarrow ((X2 = \\ & k2_real_3 X0 X1) \Leftrightarrow ((k3_funct_2 k5_numbers k5_numbers X2 k6_numbers = \\ & k3_nat_d X0 X1) \wedge ((k3_funct_2 k5_numbers k5_numbers X2 np_1 = k3_nat_d \\ & X1 (k4_nat_d X0 X1)) \wedge (\forall X3. (v7_ordinal1 X3) \Rightarrow (k3_funct_2 \\ & k5_numbers k5_numbers X2 (k1_nat_1 X3 np_2) = k3_nat_d (k1_seq_1 \\ & (k1_real_3 X0 X1) X3) (k3_funct_2 k5_numbers k5_numbers (k1_real_3 \\ & X0 X1) (k1_nat_1 X3 np_1)))))))))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.(v7_ordinal1\ X1) \Rightarrow (\forall X2. \\
& ((v1_funct_1\ X2) \wedge ((v1_funct_2\ X2\ k5_numbers\ k5_numbers) \wedge (m1_subset_1 \\
& \quad X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ k5_numbers\ k5_numbers)))))) \Rightarrow ((X2 = \\
& k1_real_3\ X0\ X1) \Leftrightarrow ((k3_funct_2\ k5_numbers\ k5_numbers\ X2\ k6_numbers = \\
& k4_nat_d\ X0\ X1) \wedge ((k3_funct_2\ k5_numbers\ k5_numbers\ X2\ np_1 = k4_nat_d \\
& \quad X1\ (k4_nat_d\ X0\ X1)) \wedge (\forall X3.(v7_ordinal1\ X3) \Rightarrow (k3_funct_2 \\
& \quad k5_numbers\ k5_numbers\ X2\ (k1_nat_1\ X3\ np_2) = k4_nat_d\ (k1_seq_1 \\
& \quad X2\ X3)\ (k3_funct_2\ k5_numbers\ k5_numbers\ X2\ (k1_nat_1\ X3\ np_1))))))))) \\
& \hspace{15em} (4)
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.(v7_ordinal1\ X1) \Rightarrow (k3_funct_2 \\
& k5_numbers\ k5_numbers\ (k2_real_3\ X0\ X1)\ np_1 = k3_nat_d\ X1\ (k3_funct_2 \\
& \quad k5_numbers\ k5_numbers\ (k1_real_3\ X0\ X1)\ k6_numbers)))
\end{aligned}$$