

t12_integra6

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Let $v1_xreal_0 : \iota \Rightarrow o$ 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 $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_integra5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $r1_integra5 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_comseq_2 : \iota \Rightarrow o$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_integra5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k47_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v2_measure5 : \iota \Rightarrow o$ be given. Let $k2_integra5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v1_xboole_0 X0) \wedge ((v2_measure5 X0) \wedge (m1_subset_1 \\
 & \quad X0 (k1_zfmisc_1 k1_numbers)))) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge \\
 & (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers)))) \Rightarrow \\
 & (\forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
 & \quad k1_numbers k1_numbers)))) \Rightarrow (((r1_tarski X0 (k9_xtuple_0 X1)) \wedge \\
 & ((r1_tarski X0 (k9_xtuple_0 X2)) \wedge ((r1_integra5 X0 X1) \wedge ((v1_comseq_2 \\
 & (k2_partfun1 k1_numbers k1_numbers X1 X0)) \wedge ((r1_integra5 X0 X2) \wedge \\
 & (v1_comseq_2 (k2_partfun1 k1_numbers k1_numbers X2 X0)))))) \Rightarrow \\
 & ((r1_integra5 X0 (k3_valued_1 k1_numbers k1_numbers k1_numbers \\
 & \quad X1 X2)) \wedge ((r1_integra5 X0 (k47_valued_1 k1_numbers k1_numbers \\
 & \quad k1_numbers X1 X2)) \wedge ((k2_integra5 X0 (k3_valued_1 k1_numbers k1_numbers \\
 & \quad k1_numbers X1 X2) = k7_real_1 (k2_integra5 X0 X1) (k2_integra5 X0 \\
 & \quad X2)) \wedge (k2_integra5 X0 (k47_valued_1 k1_numbers k1_numbers k1_numbers \\
 & \quad X1 X2) = k9_real_1 (k2_integra5 X0 X1) (k2_integra5 X0 X2))))))))) \\
 & \tag{1}
 \end{aligned}$$

Assume the following.

$$v3_membered k1_numbers \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v3_membered \\ & X1)\wedge((v3_membered X2)\wedge(((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1))))\wedge((v1_funct_1 X4)\wedge(m1_subset_1 X4 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X2))))))\Rightarrow((v1_funct_1 (k47_valued_1 X0 X1 X2 \\ & X3 X4))\wedge(m1_subset_1 (k47_valued_1 X0 X1 X2 X3 X4) (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 k1_numbers)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v3_membered \\ & X1)\wedge((v3_membered X2)\wedge(((v1_funct_1 X3)\wedge(m1_subset_1 X3 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1))))\wedge((v1_funct_1 X4)\wedge(m1_subset_1 X4 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X2))))))\Rightarrow((v1_funct_1 (k3_valued_1 X0 X1 X2 X3 \\ & X4))\wedge(m1_subset_1 (k3_valued_1 X0 X1 X2 X3 X4) (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 k1_numbers)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_xreal_0 X0)\wedge(v1_xreal_0 X1))\Rightarrow((\neg \\ & v1_xboole_0 (k3_integra5 X0 X1))\wedge((v2_measure5 (k3_integra5 \\ & X0 X1))\wedge(m1_subset_1 (k3_integra5 X0 X1) (k1_zfmisc_1 k1_numbers)))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0)\Rightarrow(\forall X1.(v1_xreal_0 X1)\Rightarrow(\forall X2. \\ & ((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers \\ & k1_numbers))))\Rightarrow(((r1_xxreal_0 X0 X1)\Rightarrow(k4_integra5 X0 X1 X2 = k2_integra5 \\ & (k3_integra5 X0 X1) X2))\wedge((\neg r1_xxreal_0 X0 X1)\Rightarrow(k4_integra5 X0 \\ & X1 X2 = k1_real_1 (k2_integra5 (k3_integra5 X1 X0) X2)))))) \end{aligned} \quad (6)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0)\Rightarrow(\forall X1.(v1_xreal_0 X1)\Rightarrow(\forall X2. \\ & ((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers \\ & k1_numbers))))\Rightarrow(\forall X3.((v1_funct_1 X3)\wedge(m1_subset_1 X3 \\ & (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers))))\Rightarrow(((r1_xxreal_0 \\ & X0 X1)\wedge((r1_tarski (k3_integra5 X0 X1) (k9_xtuple_0 X2))\wedge((r1_tarski \\ & (k3_integra5 X0 X1) (k9_xtuple_0 X3))\wedge((r1_integra5 (k3_integra5 \\ & X0 X1) X2)\wedge((r1_integra5 (k3_integra5 X0 X1) X3)\wedge((v1_comseq_2 \\ & (k2_partfun1 k1_numbers k1_numbers X2 (k3_integra5 X0 X1))\wedge(\\ & v1_comseq_2 (k2_partfun1 k1_numbers k1_numbers X3 (k3_integra5 \\ & X0 X1))))))))\Rightarrow((k4_integra5 X0 X1 (k3_valued_1 k1_numbers k1_numbers \\ & k1_numbers X2 X3) = k7_real_1 (k4_integra5 X0 X1 X2) (k4_integra5 \\ & X0 X1 X3))\wedge(k4_integra5 X0 X1 (k47_valued_1 k1_numbers k1_numbers \\ & k1_numbers X2 X3) = k9_real_1 (k4_integra5 X0 X1 X2) (k4_integra5 \\ & X0 X1 X3)))))) \end{aligned}$$