

t7_integr19 (TMYqLYbeaeoP- sTqH7By2MetyGBLd3uZUErv)

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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 $r1_integra5 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_integra5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_comseq_2 : \iota \Rightarrow o$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k47_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $k1_xxreal_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_integra5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole_0 X1) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v1_xxreal_0 X0) \Rightarrow (\forall X1. (v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xxreal_0 X2) \Rightarrow (((r1_xxreal_0 X0 X1) \wedge (r1_xxreal_0 X1 X2)) \Rightarrow \\ & (r1_xxreal_0 X0 X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v1_xxreal_0 X0) \Rightarrow (\forall X1. (v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xxreal_0 X2) \Rightarrow ((X0 \in k1_xxreal_1 X1 X2) \Leftrightarrow ((r1_xxreal_0 X1 X0) \wedge \\ & (r1_xxreal_0 X0 X2)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (r1_xxreal_0 X0 X0) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X2)\wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow(k2_partfun1 \\ & X0 X1 X2 X3 = k5_relat_1 X2 X3) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(\\ & k1_relset_1 X0 X1 = k9_xtuple_0 X1) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_xreal_0 X0)\wedge(v1_xreal_0 X1))\Rightarrow(k1_rcomp_1 \\ & X0 X1 = k1_xxreal_1 X0 X1) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0)\Rightarrow(\forall X1.(v1_xreal_0 X1)\Rightarrow(\forall X2. \\ & (v1_xreal_0 X2)\Rightarrow(\forall X3.(v1_xreal_0 X3)\Rightarrow(\forall X4.((v1_funct_1 \\ & X4)\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers))))\Rightarrow \\ & (\forall X5.((v1_funct_1 X5)\wedge(m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k1_numbers k1_numbers))))\Rightarrow(((r1_xxreal_0 X0 X1)\wedge((r1_xxreal_0 \\ & X2 X3)\wedge((r1_integra5 (k3_integra5 X0 X1) X4)\wedge((r1_integra5 (k3_integra5 \\ & X0 X1) X5)\wedge((v1_comseq_2 (k2_partfun1 k1_numbers k1_numbers X4 \\ & (k3_integra5 X0 X1))\wedge((v1_comseq_2 (k2_partfun1 k1_numbers \\ & k1_numbers X5 (k3_integra5 X0 X1))\wedge((r1_tarski (k3_integra5 \\ & X0 X1) (k9_xtuple_0 X4)\wedge((r1_tarski (k3_integra5 X0 X1) (k9_xtuple_0 \\ & X5))\wedge((X2 \in k3_integra5 X0 X1)\wedge(X3 \in k3_integra5 X0 X1))))))))))\Rightarrow \\ & ((r1_integra5 (k3_integra5 X2 X3) (k3_valued_1 k1_numbers k1_numbers \\ & k1_numbers X4 X5))\wedge((v1_comseq_2 (k2_partfun1 k1_numbers k1_numbers \\ & (k3_valued_1 k1_numbers k1_numbers k1_numbers X4 X5) (k3_integra5 \\ & X2 X3)))\wedge((k4_integra5 X2 X3 (k3_valued_1 k1_numbers k1_numbers \\ & k1_numbers X4 X5) = k7_real_1 (k4_integra5 X2 X3 X4) (k4_integra5 \\ & X2 X3 X5))\wedge((r1_integra5 (k3_integra5 X2 X3) (k47_valued_1 k1_numbers \\ & k1_numbers k1_numbers X4 X5))\wedge((v1_comseq_2 (k2_partfun1 k1_numbers \\ & k1_numbers (k47_valued_1 k1_numbers k1_numbers k1_numbers X4 \\ & X5) (k3_integra5 X2 X3))\wedge(k4_integra5 X2 X3 (k47_valued_1 k1_numbers \\ & k1_numbers k1_numbers X4 X5) = k9_real_1 (k4_integra5 X2 X3 X4) (\\ & k4_integra5 X2 X3 X5)))))))))))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0)\Rightarrow(\forall X1.(v1_xreal_0 X1)\Rightarrow((r1_xxreal_0 \\ & X0 X1)\Rightarrow(k3_integra5 X0 X1 = k1_rcomp_1 X0 X1))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0)\Rightarrow((m1_subset_1 X1 X0)\Leftrightarrow \\ & (X1 \in X0)))\wedge((v1_xboole_0 X0)\Rightarrow((m1_subset_1 X1 X0)\Leftrightarrow(v1_xboole_0 \\ & X1))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(v1_xxreal_0 X0) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \end{aligned} \quad (14)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0)\Rightarrow(\forall X1.(v1_xreal_0 X1)\Rightarrow(\forall X2. \\ & (v1_xreal_0 X2)\Rightarrow(\forall X3.(v1_xreal_0 X3)\Rightarrow(\forall X4.((v1_funct_1 \\ & X4)\wedge(m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers))))\Rightarrow \\ & (\forall X5.((v1_funct_1 X5)\wedge(m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k1_numbers k1_numbers))))\Rightarrow(((r1_xxreal_0 X0 X1)\wedge((r1_xxreal_0 \\ & X1 X2)\wedge((r1_xxreal_0 X2 X3)\wedge((r1_integra5 (k3_integra5 X0 X3) \\ & X4)\wedge((r1_integra5 (k3_integra5 X0 X3) X5)\wedge((v1_comseq_2 (k2_partfun1 \\ & k1_numbers k1_numbers X4 (k3_integra5 X0 X3))\wedge((v1_comseq_2 \\ & (k2_partfun1 k1_numbers k1_numbers X5 (k3_integra5 X0 X3))\wedge(\\ & (r1_tarski (k3_integra5 X0 X3) (k1_relset_1 k1_numbers X4))\wedge(\\ & r1_tarski (k3_integra5 X0 X3) (k1_relset_1 k1_numbers X5))))))))\Rightarrow \\ & ((r1_integra5 (k3_integra5 X1 X2) (k47_valued_1 k1_numbers k1_numbers \\ & k1_numbers X4 X5))\wedge(v1_comseq_2 (k2_partfun1 k1_numbers k1_numbers \\ & (k47_valued_1 k1_numbers k1_numbers k1_numbers X4 X5) (k3_integra5 \\ & X1 X2)))))))))) \end{aligned}$$