

t12_rinfsup2
(TMWCZJCBT6M2yCnXu2HH5ZhjhGnVuhDRKbZ)

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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 $k7_numbers : \iota$ 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 $r1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_rinfsup2 : \iota \Rightarrow o$ be given. Let $v1_seq_2 : \iota \Rightarrow o$ be given. Let $v4_xreal_2 : \iota \Rightarrow o$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k17_supinf_2 : \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k1_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_numbers)))))) \Rightarrow \\ & ((v1_seq_2 X0) \Leftrightarrow (v4_xreal_2 (k2_relset_1 k1_numbers X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & ((\neg v1_xboole_0 X1) \wedge (\neg v1_xboole_0 X3) \wedge (((v1_funct_1 X4) \wedge ((\\ & v1_funct_2 X4 X0 X1) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))))) \wedge ((v1_funct_1 X5) \wedge ((v1_funct_2 X5 X2 X3) \wedge (m1_subset_1 \\ & X5 (k1_zfmisc_1 (k2_zfmisc_1 X2 X3))))))))) \Rightarrow ((r1_funct_2 X0 X1 \\ & X2 X3 X4 X5) \Leftrightarrow (X4 = X5)) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v5_relat_1 X1 X0)) \Rightarrow (k2_relset_1 X0 X1 = k10_xtuple_0 X1) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k7_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k7_numbers)))))) \Rightarrow \\ & (k17_supinf_2 X0 = k10_xtuple_0 X0) \end{aligned} \quad (4)$$

Assume the following.

$$\neg v1_xboole_0 \ k7_numbers \quad (5)$$

Assume the following.

$$\neg v1_xboole_0 \ k1_numbers \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_funct_1 \ X0) \wedge ((v1_funct_2 \ X0 \ k5_numbers \ k7_numbers) \wedge \\ & (m1_subset_1 \ X0 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \ k7_numbers)))))) \Rightarrow \\ & ((v2_rinf sup2 \ X0) \Leftrightarrow (v4_xreal_2 \ (k17_supinf_2 \ X0))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (m1_subset_1 \ X2 \ (k1_zfmisc_1 \\ & (k2_zfmisc_1 \ X0 \ X1))) \Rightarrow ((v4_relat_1 \ X2 \ X0) \wedge (v5_relat_1 \ X2 \ X1)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (m1_subset_1 \ X2 \ (k1_zfmisc_1 \\ & (k2_zfmisc_1 \ X0 \ X1))) \Rightarrow (v1_relat_1 \ X2) \end{aligned} \quad (9)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_funct_1 \ X0) \wedge ((v1_funct_2 \ X0 \ k5_numbers \ k7_numbers) \wedge \\ & (m1_subset_1 \ X0 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \ k7_numbers)))))) \Rightarrow \\ & (\forall X1.((v1_funct_1 \ X1) \wedge ((v1_funct_2 \ X1 \ k5_numbers \ k1_numbers) \wedge \\ & (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \ k1_numbers)))))) \Rightarrow \\ & ((r1_funct_2 \ k5_numbers \ k7_numbers \ k5_numbers \ k1_numbers \ X0 \ X1) \Rightarrow \\ & ((v2_rinf sup2 \ X0) \Leftrightarrow (v1_seq_2 \ X1))) \end{aligned}$$