

t24_rinfsup1 (TMYf- FeKrEShUnT5pvApCiAeNhg7iwPXwKYY)

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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 $k1_numbers : \iota$ 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 $v7_valued_0 : \iota \Rightarrow o$ be given. Let $v1_seq_2 : \iota \Rightarrow o$ be given. Let $k2_seq_2 : \iota \Rightarrow \iota$ be given. Let $k1_rinfsup1 : \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_comseq_2 : \iota \Rightarrow o$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $k1_seq_2 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 \\ & X1 k5_numbers k1_numbers) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k5_numbers k1_numbers)))))) \Rightarrow ((\forall X2.(m2_subset_1 X2 k1_numbers \\ & k5_numbers) \Rightarrow (r1_xxreal_0 (k1_seq_1 X1 X2) X0)) \Leftrightarrow ((v1_seq_2 X1) \wedge \\ & (r1_xxreal_0 (k1_rinfsup1 X1) X0)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k1_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_numbers)))))) \Rightarrow \\ & (((v1_seq_2 X0) \wedge (v7_valued_0 X0)) \Rightarrow (\forall X1.(m2_subset_1 \\ & X1 k1_numbers k5_numbers) \Rightarrow (r1_xxreal_0 (k8_nat_1 k1_numbers \\ & X0 X1) (k2_seq_2 X0)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 \\ X1 \ k5_numbers \ k1_numbers) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ k5_numbers \ k1_numbers)))))) \Rightarrow (((v2_comseq_2 X1) \wedge (\forall X2. \\ (m2_subset_1 X2 \ k1_numbers \ k5_numbers) \Rightarrow (r1_xreal_0 (k1_seq_1 \\ X1 \ X2) \ X0))) \Rightarrow (r1_xreal_0 (k2_seq_2 X1) \ X0))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((r1_xreal_0 X0 \ X1) \wedge (r1_xreal_0 X1 \ X0)) \Rightarrow (X0 = X1)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0) \wedge (v1_xreal_0 X1)) \Rightarrow (r1_xreal_0 X0 \ X0) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\ X2 \ X0 \ X1) \Leftrightarrow (m1_subset_1 X2 \ X1)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((v1_funct_1 X1) \wedge ((v1_funct_2 \\ X1 \ k5_numbers \ X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers \\ X0)))))) \wedge (v7_ordinal1 X2)) \Rightarrow (k8_nat_1 X0 \ X1 \ X2 = k1_funct_1 X1 \ X2) \end{aligned} \quad (7)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v3_valued_0 X0))) \Rightarrow (k1_seq_1 X0 \ X1 = k1_funct_1 X0 \ X1) \quad (9)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \quad (10)$$

Assume the following.

$$v3_membered \ k1_numbers \quad (11)$$

Assume the following.

$$\neg v1_xboole_0 \ k1_numbers \quad (12)$$

Assume the following.

$$m1_subset_1 \ k5_numbers \ (k1_zfmisc_1 \ k1_numbers) \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_funct_1 \ X0) \wedge ((v1_funct_2 \ X0 \ k5_numbers \ k1_numbers) \wedge \\ (m1_subset_1 \ X0 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \ k1_numbers)))))) \Rightarrow \\ (m1_subset_1 \ (k2_seq_2 \ X0) \ k1_numbers) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_funct_1 \ X0) \wedge ((v1_funct_2 \ X0 \ k5_numbers \ k1_numbers) \wedge \\ (m1_subset_1 \ X0 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \ k1_numbers)))))) \Rightarrow \\ (v1_xreal_0 \ (k1_seq_2 \ X0)) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_funct_1 \ X0) \wedge ((v1_funct_2 \ X0 \ k5_numbers \ k1_numbers) \wedge \\ (m1_subset_1 \ X0 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \ k1_numbers)))))) \Rightarrow \\ (m1_subset_1 \ (k1_rinf_sup1 \ X0) \ k1_numbers) \end{aligned} \quad (16)$$

Assume the following.

$$\forall X0.(m1_subset_1 \ X0 \ k4_ordinal1) \Rightarrow (v7_ordinal1 \ X0) \quad (17)$$

Assume the following.

$$\forall X0.(v1_xreal_0 \ X0) \Rightarrow (v1_xxreal_0 \ X0) \quad (18)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 \ X0 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \\ k1_numbers))) \Rightarrow (((v1_funct_1 \ X0) \wedge ((v1_funct_2 \ X0 \ k5_numbers \\ k1_numbers) \wedge ((v7_valued_0 \ X0) \wedge (v1_seq_2 \ X0)))) \Rightarrow ((v1_funct_1 \\ X0) \wedge ((v1_funct_2 \ X0 \ k5_numbers \ k1_numbers) \wedge (v2_comseq_2 \ X0)))) \end{aligned} \quad (19)$$

Assume the following.

$$\forall X0.(m1_subset_1 \ X0 \ k1_numbers) \Rightarrow (v1_xreal_0 \ X0) \quad (20)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2.(m1_subset_1 \ X2 \ (k1_zfmisc_1 \\ (k2_zfmisc_1 \ X0 \ X1))) \Rightarrow (v1_relat_1 \ X2) \end{aligned} \quad (21)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1.(v3_membered \ X1) \Rightarrow (\forall X2.(m1_subset_1 \\ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1))) \Rightarrow (v3_valued_0 \ X2)) \end{aligned} \quad (22)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k1_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_numbers)))))) \Rightarrow \\ & (((v7_valued_0 X0) \wedge (v1_seq_2 X0)) \Rightarrow (k2_seq_2 X0 = k1_rinf sup1 \\ & X0)) \end{aligned}$$