

t69_rinfsup1 (TM-
MVh7TBuozLt6Kburx67ihBFGSUy8tyDbA)

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Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ 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 $v8_valued_0 : \iota \Rightarrow o$ 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 $k4_rinfsup1 : \iota \Rightarrow \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $v1_seq_2 : \iota \Rightarrow o$ be given. Let $k4_seq_4 : \iota \Rightarrow \iota$ be given. Let $v7_valued_0 : \iota \Rightarrow o$ be given. Let $v2_seq_2 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\ & ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers k1_numbers) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_numbers)))))) \Rightarrow ((v1_seq_2 \\ & X1) \Rightarrow (r1_xxreal_0 (k1_seq_1 (k4_rinfsup1 X1) (k2_nat_1 X0 np_1)) \\ & (k1_seq_1 (k4_rinfsup1 X1) X0)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k1_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_numbers)))))) \Rightarrow \\ & ((v8_valued_0 X0) \Rightarrow (\forall X1.(m2_subset_1 X1 k1_numbers k5_numbers) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 k1_numbers)) \Rightarrow ((X2 = \\ & ReplSep (toset (\lambda X3 : \iota.m2_subset_1 X3 k1_numbers k5_numbers)) \\ & (\lambda X3 : \iota.r1_xxreal_0 X1 X3) (\lambda X3 : \iota.k1_seq_1 X0 X3)) \Rightarrow \\ & (k4_seq_4 X2 = k1_seq_1 X0 X1)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k1_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_numbers)))))) \Rightarrow \\ & (\forall X1.(m2_subset_1 X1 k1_numbers k5_numbers) \Rightarrow (m1_subset_1 \\ & (ReplSep (toset (\lambda X2 : \iota.m2_subset_1 X2 k1_numbers k5_numbers)) \\ & (\lambda X2 : \iota.r1_xxreal_0 X1 X2) (\lambda X2 : \iota.k1_seq_1 X0 X2)) (\\ & k1_zfmisc_1 k1_numbers)))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k1_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_numbers)))))) \Rightarrow \\ & (((v7_valued_0 X0) \Rightarrow (v2_seq_2 X0)) \wedge ((v8_valued_0 X0) \Rightarrow (v1_seq_2 \\ & X0))) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k1_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_numbers)))))) \Rightarrow \\ & ((v1_funct_1 (k4_rinf sup1 X0)) \wedge ((v1_funct_2 (k4_rinf sup1 X0) \\ & k5_numbers k1_numbers) \wedge (m1_subset_1 (k4_rinf sup1 X0) (k1_zfmisc_1 \\ & (k2_zfmisc_1 k5_numbers k1_numbers)))))) \end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k1_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_numbers)))))) \Rightarrow \\ & (\forall X1.((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers k1_numbers) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_numbers)))))) \Rightarrow \\ & ((X1 = k4_rinf sup1 X0) \Leftrightarrow (\forall X2.(m2_subset_1 X2 k1_numbers \\ & k5_numbers) \Rightarrow (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 k1_numbers)) \Rightarrow \\ & ((X3 = ReplSep (toset (\lambda X4 : \iota.m2_subset_1 X4 k1_numbers k5_numbers) \\ & (\lambda X4 : \iota.r1_xxreal_0 X2 X4) (\lambda X4 : \iota.k1_seq_1 X0 X4)) \Rightarrow \\ & (k1_seq_1 X1 X2 = k4_seq_4 X3)))))) \end{aligned} \tag{6}$$

Theorem 1

$$\begin{aligned} & \forall X0.(m2_subset_1 X0 k1_numbers k5_numbers) \Rightarrow (\forall X1. \\ & ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 k5_numbers k1_numbers) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_numbers)))))) \Rightarrow ((v8_valued_0 \\ & X1) \Rightarrow (r1_xxreal_0 (k1_seq_1 (k4_rinf sup1 X1) (k2_nat_1 X0 np_1)) \\ & (k1_seq_1 X1 X0))) \end{aligned}$$