

t24_asympt_0
(TMRTscyai61o5ChBU5f6C49txoT1XtRH77Z)

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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 $v4_asympt_0 : \iota \Rightarrow o$ 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 $v1_limfunc1 : \iota \Rightarrow o$ be given. Let $k52_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_asympt_0 : \iota \Rightarrow \iota$ be given. Let $v2_asympt_0 : \iota \Rightarrow o$ be given. Let $k6_asympt_0 : \iota \Rightarrow \iota$ be given. Let $v5_asympt_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k1_numbers) \wedge \\ & ((v2_asympt_0 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k5_numbers k1_numbers)))))) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge \\ & (v1_funct_2 X1 k5_numbers k1_numbers) \wedge ((v2_asympt_0 X1) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_numbers)))))) \Rightarrow ((\\ & X0 \in k7_asympt_0 X1) \Leftrightarrow (X1 \in k6_asympt_0 X0)) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k1_numbers) \wedge \\ & ((v4_asympt_0 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k5_numbers k1_numbers)))))) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge \\ & (v1_funct_2 X1 k5_numbers k1_numbers) \wedge ((v4_asympt_0 X1) \wedge (m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_numbers)))))) \Rightarrow ((\\ & v1_limfunc1 (k52_valued_1 k5_numbers k1_numbers k1_numbers X0 \\ & X1) \Rightarrow ((\neg X0 \in k6_asympt_0 X1) \wedge (X1 \in k6_asympt_0 X0))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers \\ & k1_numbers))) \Rightarrow (((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers \\ & k1_numbers) \wedge (v4_asympt_0 X0))) \Rightarrow ((v1_funct_1 X0) \wedge ((v1_funct_2 \\ & X0 k5_numbers k1_numbers) \wedge ((v2_asympt_0 X0) \wedge (v5_asympt_0 X0)))) \end{aligned} \tag{3}$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k1_numbers) \wedge \\ & ((v4_asympt_0 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k5_numbers k1_numbers)))))) \Rightarrow (\forall X1.((v1_funct_1 X1) \wedge (\\ (v1_funct_2 X1 k5_numbers k1_numbers) \wedge ((v4_asympt_0 X1) \wedge (m1_subset_1 \\ X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_numbers)))))) \Rightarrow ((\\ v1_limfunc1 (k52_valued_1 k5_numbers k1_numbers k1_numbers X0 \\ X1)) \Rightarrow ((\neg X1 \in k7_asympt_0 X0) \wedge (X0 \in k7_asympt_0 X1)))) \end{aligned}$$