

t18_limfunc3

(TMPmM2gvJyg14Ye8HyFX8x31EBy3jx2f8L4)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_limfunc3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k26_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3_limfunc3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r5_limfunc2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r6_limfunc2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_limfunc2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_limfunc2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\
 & \quad X1 k1_numbers) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 X2 \\
 & \quad (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))) \Rightarrow (((r5_limfunc2 \\
 & \quad X2 X0) \Rightarrow ((r1_xxreal_0 X1 k6_numbers) \vee (r5_limfunc2 (k26_valued_1 \\
 & \quad k1_numbers k1_numbers X2 X1) X0))) \wedge (((r5_limfunc2 X2 X0) \Rightarrow ((r1_xxreal_0 \\
 & \quad k6_numbers X1) \vee (r6_limfunc2 (k26_valued_1 k1_numbers k1_numbers \\
 & \quad X2 X1) X0))) \wedge (((r6_limfunc2 X2 X0) \Rightarrow ((r1_xxreal_0 X1 k6_numbers) \vee \\
 & \quad (r6_limfunc2 (k26_valued_1 k1_numbers k1_numbers X2 X1) X0))) \wedge \\
 & \quad ((r6_limfunc2 X2 X0) \Rightarrow ((r1_xxreal_0 k6_numbers X1) \vee (r5_limfunc2 \\
 & \quad (k26_valued_1 k1_numbers k1_numbers X2 X1) X0))))))))) \\
 & \tag{1}
 \end{aligned}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\
 & \quad X1 k1_numbers) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 X2 \\
 & \quad (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))) \Rightarrow (((r2_limfunc2 \\
 & \quad X2 X0) \Rightarrow ((r1_xxreal_0 X1 k6_numbers) \vee (r2_limfunc2 (k26_valued_1 \\
 & \quad k1_numbers k1_numbers X2 X1) X0))) \wedge (((r2_limfunc2 X2 X0) \Rightarrow ((r1_xxreal_0 \\
 & \quad k6_numbers X1) \vee (r3_limfunc2 (k26_valued_1 k1_numbers k1_numbers \\
 & \quad X2 X1) X0))) \wedge (((r3_limfunc2 X2 X0) \Rightarrow ((r1_xxreal_0 X1 k6_numbers) \vee \\
 & \quad (r3_limfunc2 (k26_valued_1 k1_numbers k1_numbers X2 X1) X0))) \wedge \\
 & \quad ((r3_limfunc2 X2 X0) \Rightarrow ((r1_xxreal_0 k6_numbers X1) \vee (r2_limfunc2 \\
 & \quad (k26_valued_1 k1_numbers k1_numbers X2 X1) X0))))))))) \\
 & \tag{2}
 \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1.((v1_funct_1 \\ & X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))) \Rightarrow \\ & ((r3_limfunc3 X1 X0) \Leftrightarrow ((r3_limfunc2 X1 X0) \wedge (r6_limfunc2 X1 X0)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1.((v1_funct_1 \\ & X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))) \Rightarrow \\ & ((r2_limfunc3 X1 X0) \Leftrightarrow ((r2_limfunc2 X1 X0) \wedge (r5_limfunc2 X1 X0)))) \end{aligned} \quad (4)$$

Assume the following.

$$v3_membered k1_numbers \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v3_membered X1) \wedge \\ & (((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))) \wedge (v1_xreal_0 X3))) \Rightarrow ((v1_funct_1 (k26_valued_1 X0 X1 \\ & X2 X3)) \wedge (m1_subset_1 (k26_valued_1 X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 k1_numbers)))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xreal_0 X0) \quad (7)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 k1_numbers) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 X2 \\ & (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))) \Rightarrow (((r2_limfunc3 \\ & X2 X0) \Rightarrow ((r1_xxreal_0 X1 k6_numbers) \vee (r2_limfunc3 (k26_valued_1 \\ & k1_numbers k1_numbers X2 X1) X0))) \wedge (((r2_limfunc3 X2 X0) \Rightarrow ((r1_xxreal_0 \\ & k6_numbers X1) \vee (r3_limfunc3 (k26_valued_1 k1_numbers k1_numbers \\ & X2 X1) X0))) \wedge (((r3_limfunc3 X2 X0) \Rightarrow ((r1_xxreal_0 X1 k6_numbers) \vee \\ & (r3_limfunc3 (k26_valued_1 k1_numbers k1_numbers X2 X1) X0))) \wedge \\ & ((r3_limfunc3 X2 X0) \Rightarrow ((r1_xxreal_0 k6_numbers X1) \vee (r2_limfunc3 \\ & (k26_valued_1 k1_numbers k1_numbers X2 X1) X0)))))) \end{aligned}$$