

## t63\_limfunc1

(TMUr8piXGAepBn CZ9T JzXjWTn2qzinCv7AX)

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Let  $v1\_funct\_1 : \iota \Rightarrow o$  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  $k1\_numbers : \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v5\_valued\_0 : \iota \Rightarrow o$  be given. Let  $k2\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_limfunc1 : \iota \Rightarrow \iota$  be given. Let  $v1\_seq\_2 : \iota \Rightarrow o$  be given. Let  $v4\_limfunc1 : \iota \Rightarrow o$  be given. Let  $v7\_valued\_0 : \iota \Rightarrow o$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $v2\_membered : \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v2\_valued\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_funct\_1 X0) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & k1\_numbers k1\_numbers)))) \Rightarrow ((\forall X1. (m1\_subset\_1 X1 k1\_numbers) \Rightarrow \\ & (\exists X2. (m1\_subset\_1 X2 k1\_numbers) \wedge ((\neg r1\_xxreal\_0 X2 X1) \wedge \\ & (X2 \in k1\_relset\_1 k1\_numbers X0)))) \Rightarrow ((\forall X1. (m1\_subset\_1 \\ & X1 k1\_numbers) \Rightarrow (\neg (v7\_valued\_0 (k2\_partfun1 k1\_numbers k1\_numbers \\ & X0 (k3\_limfunc1 X1)))) \wedge (\neg v1\_seq\_2 (k2\_partfun1 k1\_numbers k1\_numbers \\ & X0 (k3\_limfunc1 X1)))))) \vee (v4\_limfunc1 X0)) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1\_funct\_1 X2) \wedge \\ & (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \Rightarrow (k2\_partfun1 \\ & X0 X1 X2 X3 = k5\_relat\_1 X2 X3) \end{aligned} \tag{2}$$

Assume the following.

$$v3\_membered k1\_numbers \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1\_funct\_1 X2) \wedge \\ & (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \Rightarrow ((v1\_funct\_1 \\ & (k2\_partfun1 X0 X1 X2 X3)) \wedge (m1\_subset\_1 (k2\_partfun1 X0 X1 X2 X3) \\ & (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.(v3\_membered\ X0)\Rightarrow(v2\_membered\ X0) \quad (5)$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge((v2\_valued\_0\ X0)\wedge(v5\_valued\_0\ X0))))\Rightarrow((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge((v2\_valued\_0\ X0)\wedge(v7\_valued\_0\ X0)))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v1\_relat\_1\ X2) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(v2\_membered\ X1)\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v2\_valued\_0\ X2)) \quad (8)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v1\_funct\_1\ X0)\wedge(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\Rightarrow((\forall X1.(m1\_subset\_1\ X1\ k1\_numbers)\Rightarrow \\ & (\exists X2.(m1\_subset\_1\ X2\ k1\_numbers)\wedge((\neg r1\_xxreal\_0\ X2\ X1)\wedge \\ & (X2 \in k1\_relset\_1\ k1\_numbers\ X0))))\Rightarrow((\forall X1.(m1\_subset\_1\ X1\ k1\_numbers)\Rightarrow(\neg(v5\_valued\_0\ (k2\_partfun1\ k1\_numbers\ k1\_numbers\ X0\ (k3\_limfunc1\ X1))))\wedge(\neg v1\_seq\_2\ (k2\_partfun1\ k1\_numbers\ k1\_numbers\ X0\ (k3\_limfunc1\ X1))))\vee(v4\_limfunc1\ X0))) \end{aligned}$$