

## t48\_setlim\_1

(TMMG5scTYaPLmLNbpr4YfqXJMFYdTAtK91o)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  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  $k9\_setfam\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_prob\_1 : \iota \Rightarrow o$  be given. Let  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_setlim\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k6\_prob\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_prob\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_prob\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k3\_setlim\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1. \forall X2. \\ & ((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 k5\_numbers (k9\_setfam\_1 X1)) \wedge \\ & (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k9\_setfam\_1 \\ & X1)))))) \Rightarrow ((v2\_prob\_1 X2) \Rightarrow (r1\_tarski (k3\_funct\_2 k5\_numbers \\ & (k9\_setfam\_1 X1) (k4\_setlim\_1 X1 X2) (k2\_nat\_1 X0 np\_1)) (k3\_funct\_2 \\ & k5\_numbers (k9\_setfam\_1 X1) X2 X0)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1. \forall X2. \\ & ((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 k5\_numbers (k9\_setfam\_1 X1)) \wedge \\ & (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k9\_setfam\_1 \\ & X1)))))) \Rightarrow (k3\_funct\_2 k5\_numbers (k9\_setfam\_1 X1) (k4\_setlim\_1 \\ & X1 X2) X0 = k6\_prob\_1 X1 (k9\_setfam\_1 X1) (k3\_funct\_2 k5\_numbers \\ & (k9\_setfam\_1 X1) (k4\_setlim\_1 X1 X2) (k2\_nat\_1 X0 np\_1)) (k3\_funct\_2 \\ & k5\_numbers (k9\_setfam\_1 X1) X2 X0)) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. (r1\_tarski X0 X1) \Rightarrow (k2\_xboole\_0 X0 X1 = X1) \tag{3}$$

Assume the following.

$$\begin{aligned} & ((v2\_xreal\_0 \ np\_1) \wedge (m2\_subset\_1 \ np\_1 \ k1\_numbers \ k5\_numbers)) \wedge \\ & ((m1\_subset\_1 \ np\_1 \ k5\_numbers) \wedge (m1\_subset\_1 \ np\_1 \ k1\_numbers)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1\_xboole\_0 \ X0) \wedge ((\neg v1\_xboole\_0 \ X1) \wedge \\ & (m1\_subset\_1 \ X1 \ (k1\_zfmisc\_1 \ X0)))) \Rightarrow (\forall X2. (m2\_subset\_1 \\ & \ X2 \ X0 \ X1) \Leftrightarrow (m1\_subset\_1 \ X2 \ X1)) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0. k9\_setfam\_1 \ X0 = k1\_zfmisc\_1 \ X0 \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((\neg v1\_xboole\_0 \\ & X1) \wedge ((v1\_prob\_1 \ X1 \ X0) \wedge ((v4\_prob\_1 \ X1 \ X0) \wedge (m1\_subset\_1 \ X1 \ (k1\_zfmisc\_1 \\ & \ (k1\_zfmisc\_1 \ X0)))))) \wedge ((m1\_subset\_1 \ X2 \ X1) \wedge (m1\_subset\_1 \ X3 \ X1))) \Rightarrow \\ & (k6\_prob\_1 \ X0 \ X1 \ X2 \ X3 = k2\_xboole\_0 \ X2 \ X3) \end{aligned} \quad (7)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1\_funct\_1 \ X1) \wedge ((v1\_funct\_2 \ X1 \ k5\_numbers \\ & (k9\_setfam\_1 \ X0)) \wedge (m1\_subset\_1 \ X1 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \\ & \ k5\_numbers \ (k9\_setfam\_1 \ X0)))))) \Rightarrow (k4\_setlim\_1 \ X0 \ X1 = k3\_setlim\_1 \\ & \ X1) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1\_xboole\_0 \ X0) \wedge \\ & (((v1\_funct\_1 \ X2) \wedge ((v1\_funct\_2 \ X2 \ X0 \ X1) \wedge (m1\_subset\_1 \ X2 \ (k1\_zfmisc\_1 \\ & \ (k2\_zfmisc\_1 \ X0 \ X1)))))) \wedge (m1\_subset\_1 \ X3 \ X0))) \Rightarrow (k3\_funct\_2 \ X0 \\ & \ X1 \ X2 \ X3 = k1\_funct\_1 \ X2 \ X3) \end{aligned} \quad (10)$$

Assume the following.

$$(\neg v1\_xboole\_0 \ k4\_ordinal1) \wedge (v3\_ordinal1 \ k4\_ordinal1) \quad (11)$$

Assume the following.

$$\forall X0. v4\_prob\_1 \ (k1\_zfmisc\_1 \ X0) \ X0 \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v1\_funct\_1 X1)\wedge((v1\_funct\_2 X1 k5\_numbers \\ (k9\_setfam\_1 X0))\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ k5\_numbers (k9\_setfam\_1 X0))))))\Rightarrow((v1\_funct\_1 (k3\_setlim\_1 \\ X1))\wedge((v1\_funct\_2 (k3\_setlim\_1 X1) k5\_numbers (k9\_setfam\_1 X0))\wedge \\ (v2\_prob\_1 (k3\_setlim\_1 X1)))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.v1\_prob\_1 (k1\_zfmisc\_1 X0) X0 \quad (14)$$

Assume the following.

$$\forall X0.\neg v1\_xboole\_0 (k1\_zfmisc\_1 X0) \quad (15)$$

Assume the following.

$$\forall X0.m1\_subset\_1 (k9\_setfam\_1 X0) (k1\_zfmisc\_1 (k1\_zfmisc\_1 X0)) \quad (16)$$

Assume the following.

$$m1\_subset\_1 k5\_numbers (k1\_zfmisc\_1 k1\_numbers) \quad (17)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v1\_funct\_1 X1)\wedge((v1\_funct\_2 X1 k5\_numbers \\ (k9\_setfam\_1 X0))\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ k5\_numbers (k9\_setfam\_1 X0))))))\Rightarrow((v1\_funct\_1 (k4\_setlim\_1 \\ X0 X1))\wedge((v1\_funct\_2 (k4\_setlim\_1 X0 X1) k5\_numbers (k9\_setfam\_1 \\ X0))\wedge(m1\_subset\_1 (k4\_setlim\_1 X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ k5\_numbers (k9\_setfam\_1 X0)))))) \end{aligned} \quad (18)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 X0)\wedge \\ (((v1\_funct\_1 X2)\wedge((v1\_funct\_2 X2 X0 X1)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ (k2\_zfmisc\_1 X0 X1))))))\wedge(m1\_subset\_1 X3 X0)))\Rightarrow(m1\_subset\_1 ( \\ k3\_funct\_2 X0 X1 X2 X3) X1) \end{aligned} \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k5\_numbers)\wedge(v7\_ordinal1 X1))\Rightarrow(m2\_subset\_1 (k2\_nat\_1 X0 X1) k1\_numbers k5\_numbers) \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.k2\_xboole\_0 X0 X1 = k2\_xboole\_0 X1 X0 \quad (21)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1) \Rightarrow (v7\_ordinal1 X0) \quad (22)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (v1\_xboole\_0 X1)) \quad (23)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.\forall X2. \\ & ((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 k5\_numbers (k9\_setfam\_1 X1)) \wedge \\ & (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k9\_setfam\_1 \\ & X1)))))) \Rightarrow ((v2\_prob\_1 X2) \Rightarrow (k3\_funct\_2 k5\_numbers (k9\_setfam\_1 \\ & X1) (k4\_setlim\_1 X1 X2) X0 = k3\_funct\_2 k5\_numbers (k9\_setfam\_1 \\ & X1) X2 X0))) \end{aligned}$$