

## t39\_mesfunc6

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. 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  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k18\_rfunct\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k19\_rfunct\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_real\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_mesfunc2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_mesfunc5 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_mesfunc2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_numbers : \iota$  be given. Let  $k2\_supinf\_2 : \iota \Rightarrow \iota$  be given. Let  $k12\_supinf\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_supinf\_2 : \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v3\_valued\_0 : \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $v2\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $v2\_membered : \iota \Rightarrow o$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1\_xboole\_0 X1) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((v1\_funct\_1 X1) \wedge ( \\ m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers)))) \Rightarrow ( \\ (k1\_mesfunc2 X0 (k1\_mesfunc5 X0 X1) = k18\_rfunct\_3 X0 X1) \wedge (k2\_mesfunc2 \\ X0 (k1\_mesfunc5 X0 X1) = k19\_rfunct\_3 X0 X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. (m1\_subset\_1 X0 k7\_numbers) \Rightarrow (\forall X1. (m1\_subset\_1 \\ X1 k1\_numbers) \Rightarrow ((X0 = X1) \Rightarrow (k2\_supinf\_2 X0 = k1\_real\_1 X1))) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge ( \\ m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k7\_numbers)))) \Rightarrow ( \\ \forall X2.(m1\_subset\_1 X2 X0) \Rightarrow (((X2 \in k1\_relset\_1 X0 X1) \wedge (k12\_supinf\_2 \\ (k1\_mesfunc2 X0 X1) X2 = k1\_supinf\_2)) \Rightarrow (k12\_supinf\_2 (k2\_mesfunc2 \\ X0 X1) X2 = k2\_supinf\_2 (k12\_supinf\_2 X1 X2)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\ (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2.(m2\_subset\_1 \\ X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \end{aligned} \quad (6)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (7)$$

Assume the following.

$$k1\_supinf\_2 = k1\_xboole\_0 \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v3\_valued\_0 \\ X0))) \Rightarrow (k1\_seq\_1 X0 X1 = k1\_funct\_1 X0 X1) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 X0)) \Rightarrow ( \\ k1\_relset\_1 X0 X1 = k9\_xtuple\_0 X1) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v2\_valued\_0 \\ X0))) \Rightarrow (k12\_supinf\_2 X0 X1 = k1\_funct\_1 X0 X1) \quad (11)$$

Assume the following.

$$v3\_membered k1\_numbers \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\ (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2.(m2\_subset\_1 \\ X2 X0 X1) \Rightarrow (m1\_subset\_1 X2 X0)) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v3\_valued\_0 X0)))\Rightarrow(m1\_subset\_1 (k1\_seq\_1 X0 X1) k1\_numbers) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v4\_relat\_1 X1 X0))\Rightarrow(m1\_subset\_1 (k1\_relset\_1 X0 X1) (k1\_zfmisc\_1 X0)) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((v1\_funct\_1 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers))))\Rightarrow((v1\_funct\_1 (k1\_mesfunc5 X0 X1))\wedge(m1\_subset\_1 (k1\_mesfunc5 X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k7\_numbers)))) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((v1\_funct\_1 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers))))\Rightarrow((v1\_funct\_1 (k19\_rfunct\_3 X0 X1))\wedge(m1\_subset\_1 (k19\_rfunct\_3 X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers)))) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((v1\_funct\_1 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers))))\Rightarrow((v1\_funct\_1 (k18\_rfunct\_3 X0 X1))\wedge(m1\_subset\_1 (k18\_rfunct\_3 X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers)))) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v2\_valued\_0 X0)))\Rightarrow(m1\_subset\_1 (k12\_supinf\_2 X0 X1) k7\_numbers) \quad (19)$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.((v1\_funct\_1 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers))))\Rightarrow(k1\_mesfunc5 X0 X1 = X1)) \quad (20)$$

Assume the following.

$$\forall X0.(v3\_membered X0)\Rightarrow(v2\_membered X0) \quad (21)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow((v4\_relat\_1 X2 X0)\wedge(v5\_relat\_1 X2 X1)) \quad (22)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(v1\_relat\_1 X2) \quad (23)$$

Assume the following.

$$\forall X0.\forall X1.(v3\_membered X1)\Rightarrow(\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(v3\_valued\_0 X2)) \quad (24)$$

Assume the following.

$$\forall X0.\forall X1.(v2\_membered X1)\Rightarrow(\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(v2\_valued\_0 X2)) \quad (25)$$

**Theorem 1**

$$\begin{aligned} &\forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.((v1\_funct\_1 X1)\wedge \\ &m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers))))\Rightarrow( \\ &\forall X2.((X2 \in k1\_relset\_1 X0 X1)\wedge(k1\_seq\_1 (k18\_rfunct\_3 X0 \\ &X1) X2 = k6\_numbers))\Rightarrow(k1\_seq\_1 (k19\_rfunct\_3 X0 X1) X2 = k1\_real\_1 \\ &(k1\_seq\_1 X1 X2)))) \end{aligned}$$