

## t69\_mesfunc6

(TMWpU2vTbdPwoyUGtR3RdvGw9H3rS9T6ZY2)

October 27, 2020

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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_mesfunc6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k14\_mesfunc1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k11\_mesfunc1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k9\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_numbers : \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k15\_mesfunc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_mesfunc5 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_finsub\_1 : \iota \Rightarrow o$  be given. Let  $r1\_mesfunc1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_measure6 : \iota \Rightarrow \iota$  be given. Let  $v3\_measure1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_finsub\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. k3\_xboole\_0 (k3\_xboole\_0 X0 X1) X2 = k3\_xboole\_0 X0 (k3\_xboole\_0 X1 X2) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((\neg v1\_xboole\_0 X1) \wedge \\ & ((v1\_prob\_1 X1 X0) \wedge ((v4\_prob\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k1\_zfmisc\_1 X0)))))) \Rightarrow (\forall X2. ((v1\_funct\_1 X2) \wedge (m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers)))) \Rightarrow (\forall X3. ( \\ & m2\_subset\_1 X3 (k1\_zfmisc\_1 X0) X1) \Rightarrow ((r1\_tarski X3 (k1\_relset\_1 \\ & X0 X2)) \Rightarrow ((r1\_mesfunc6 X0 X1 X2 X3) \Leftrightarrow (\forall X4. (v1\_xreal\_0 X4) \Rightarrow \\ & (k8\_subset\_1 X0 X3 (k14\_mesfunc1 X2 X4) \in X1)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 X0)) \Rightarrow (k9\_subset\_1 X0 X1 X2 = k3\_xboole\_0 X1 X2) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (k8\_subset\_1 X0 X1 X2 = k3\_xboole\_0 X1 X2) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v1\_funct\_1 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k7\_numbers))))\wedge(v1\_xreal\_0 X2))\Rightarrow(k15\_mesfunc1 X0 X1 X2 = k11\_mesfunc1 X1 X2) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.k3\_xboole\_0 X0 X0 = X0 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((\neg v1\_xboole\_0 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))))\Rightarrow(\forall X2.(m2\_subset\_1 X2 X0 X1)\Rightarrow(m1\_subset\_1 X2 X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))\Rightarrow(m1\_subset\_1 (k8\_subset\_1 X0 X1 X2) (k1\_zfmisc\_1 X0)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((v1\_funct\_1 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers))))\Rightarrow((v1\_funct\_1 (k1\_mesfunc5 X0 X1))\wedge(m1\_subset\_1 (k1\_mesfunc5 X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k7\_numbers)))) \quad (9)$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.((v1\_funct\_1 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers))))\Rightarrow(k1\_mesfunc5 X0 X1 = X1)) \quad (10)$$

Assume the following.

$$\forall X0.(v2\_finsub\_1 X0)\Leftrightarrow(\forall X1.\forall X2.((X1 \in X0)\wedge(X2 \in X0))\Rightarrow(k3\_xboole\_0 X1 X2 \in X0)) \quad (11)$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0 X0)\Rightarrow(\forall X1.((\neg v1\_xboole\_0 X1)\wedge(((v1\_prob\_1 X1 X0)\wedge(v4\_prob\_1 X1 X0)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k1\_zfmisc\_1 X0))))))\Rightarrow(\forall X2.((v1\_funct\_1 X2)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers))))\Rightarrow(\forall X3.(m2\_subset\_1 X3 (k1\_zfmisc\_1 X0) X1)\Rightarrow((r1\_mesfunc6 X0 X1 X2 X3)\Leftrightarrow(r1\_mesfunc1 X0 X1 (k1\_mesfunc5 X0 X2) X3)))))) \quad (12)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(k1\_measure6 X0 = X0) \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge \\ & ((v1\_prob\_1 X1 X0) \wedge ((v4\_prob\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k1\_zfmisc\_1 X0)))))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge (m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k7\_numbers)))) \Rightarrow (\forall X3.( \\ & m2\_subset\_1 X3 (k1\_zfmisc\_1 X0) X1) \Rightarrow ((r1\_mesfunc1 X0 X1 X2 X3) \Leftrightarrow \\ & (\forall X4.(v1\_xreal\_0 X4) \Rightarrow (k9\_subset\_1 X0 X3 (k15\_mesfunc1 \\ & X0 X2 (k1\_measure6 X4)) \in X1)))))) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 X0)) \Rightarrow (k9\_subset\_1 X0 X1 X2 = k9\_subset\_1 X0 X2 X1) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.k3\_xboole\_0 X0 X1 = k3\_xboole\_0 X1 X0 \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k1\_zfmisc\_1 \\ & X0))) \Rightarrow (((\neg v1\_xboole\_0 X1) \wedge ((v1\_prob\_1 X1 X0) \wedge (v3\_measure1 X1 \\ & X0))) \Rightarrow ((\neg v1\_xboole\_0 X1) \wedge (v1\_finsub\_1 X1))) \end{aligned} \quad (17)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v1\_xxreal\_0 X0) \quad (18)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k1\_zfmisc\_1 \\ & X0))) \Rightarrow (((v1\_prob\_1 X1 X0) \wedge (v4\_prob\_1 X1 X0)) \Rightarrow (v3\_measure1 X1 \\ & X0)) \end{aligned} \quad (19)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \quad (20)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (v1\_xboole\_0 X1)) \quad (21)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k1\_zfmisc\_1 \\ & X0))) \Rightarrow (((v1\_finsub\_1 X1) \wedge (v1\_prob\_1 X1 X0)) \Rightarrow (v2\_finsub\_1 X1)) \end{aligned} \quad (22)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge \\ & ((v1\_prob\_1 X1 X0) \wedge ((v4\_prob\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k1\_zfmisc\_1 X0)))))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge (m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers)))) \Rightarrow (\forall X3.( \\ & m2\_subset\_1 X3 (k1\_zfmisc\_1 X0) X1) \Rightarrow (\forall X4.(m1\_subset\_1 \\ & X4 k1\_numbers) \Rightarrow (\forall X5.(m1\_subset\_1 X5 k1\_numbers) \Rightarrow (((r1\_mesfunc6 \\ & X0 X1 X2 X3) \wedge (r1\_tarski X3 (k1\_relset\_1 X0 X2))) \Rightarrow (k8\_subset\_1 X0 \\ & (k8\_subset\_1 X0 X3 (k14\_mesfunc1 X2 X4) (k11\_mesfunc1 X2 X5) \in X1))))))))) \end{aligned}$$