

## t18\_mesfunc6

(TMPN5DA3fEY83mcksbp7Z8aapinr8hAwVXY)

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  $k13\_mesfunc1 : \iota \Rightarrow \iota \Rightarrow \iota$  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. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. r1\_tarski (k3\_xboole\_0 X0 X1) X0 \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((\neg v1\_xboole\_0 X1) \wedge \\ ((v1\_prob\_1 X1 X0) \wedge ((v4\_prob\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ (k1\_zfmisc\_1 X0)))))) \Rightarrow (\forall X2. ((v1\_funct\_1 X2) \wedge (m1\_subset\_1 \\ X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers)))) \Rightarrow (\forall X3. ( \\ m2\_subset\_1 X3 (k1\_zfmisc\_1 X0) X1) \Rightarrow (\forall X4. (m2\_subset\_1 \\ X4 (k1\_zfmisc\_1 X0) X1) \Rightarrow (((r1\_tarski X3 X4) \wedge (r1\_mesfunc6 X0 X1 \\ X2 X4)) \Rightarrow (r1\_mesfunc6 X0 X1 X2 X3)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge \\ & ((v1\_prob\_1 X1 X0) \wedge ((v4\_prob\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k1\_zfmisc\_1 X0)))))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge (m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers)))) \Rightarrow (\forall X3.( \\ & m2\_subset\_1 X3 (k1\_zfmisc\_1 X0) X1) \Rightarrow ((r1\_tarski X3 (k1\_relset\_1 \\ & X0 X2)) \Rightarrow ((r1\_mesfunc6 X0 X1 X2 X3) \Leftrightarrow (\forall X4.(v1\_xreal\_0 X4) \Rightarrow \\ & (k8\_subset\_1 X0 X3 (k13\_mesfunc1 X2 X4) \in X1)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge \\ & ((v1\_prob\_1 X1 X0) \wedge ((v4\_prob\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k1\_zfmisc\_1 X0)))))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge (m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers)))) \Rightarrow (\forall X3.( \\ & m2\_subset\_1 X3 (k1\_zfmisc\_1 X0) X1) \Rightarrow ((r1\_mesfunc6 X0 X1 X2 X3) \Leftrightarrow \\ & (\forall X4.(v1\_xreal\_0 X4) \Rightarrow (k8\_subset\_1 X0 X3 (k11\_mesfunc1 \\ & X2 X4) \in X1)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. r1\_tarski X0 X0 \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2. (m2\_subset\_1 \\ & X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & X0)) \Rightarrow (k8\_subset\_1 X0 X1 X2 = k3\_xboole\_0 X1 X2) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0. \neg v1\_xboole\_0 (k1\_zfmisc\_1 X0) \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2. (m2\_subset\_1 \\ & X2 X0 X1) \Rightarrow (m1\_subset\_1 X2 X0)) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0. (m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \quad (12)$$

Assume the following.

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

**Theorem 1**

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge \\ & ((v1\_prob\_1 X1 X0) \wedge ((v4\_prob\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k1\_zfmisc\_1 X0)))))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge (m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers)))) \Rightarrow (\forall X3.( \\ & m2\_subset\_1 X3 (k1\_zfmisc\_1 X0) X1) \Rightarrow (\forall X4.(m1\_subset\_1 \\ & X4 k1\_numbers) \Rightarrow (\forall X5.(m1\_subset\_1 X5 k1\_numbers) \Rightarrow (((r1\_mesfunc6 \\ & X0 X1 X2 X3) \wedge (r1\_tarski X3 (k1\_relset\_1 X0 X2))) \Rightarrow (k8\_subset\_1 X0 \\ & (k8\_subset\_1 X0 X3 (k13\_mesfunc1 X2 X4) (k11\_mesfunc1 X2 X5) \in X1)))))) \end{aligned}$$