

t15\_prob\_4 (TMNjJp-  
WhuA16vVTUJmMJFUvkB3o8Bvx532k)

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Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k9\_setfam\_1 : \iota \Rightarrow \iota$  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  $v3\_prob\_1 : \iota \Rightarrow o$  be given. Let  $r2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_prob\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  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  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_prob\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 \\ & X2 X0 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \Rightarrow \\ & (\forall X3. ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 X0 X1) \wedge (m1\_subset\_1 \\ & X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \Rightarrow ((\forall X4. (m1\_subset\_1 \\ & X4 X0) \Rightarrow (k1\_funct\_1 X2 X4 = k1\_funct\_1 X3 X4)) \Rightarrow (r2\_relset\_1 X0 X1 \\ & X2 X3))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((m1\_subset\_1 X2 \\ & (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X1)))) \Rightarrow ((r2\_relset\_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3)) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((v1\_funct\_1 X2) \wedge \\ & ((v1\_funct\_2 X2 X0 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X1)))) \wedge ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 X0 X1) \wedge (m1\_subset\_1 \\ & X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))))) \Rightarrow ((r2\_funct\_2 X0 X1 X2 \\ & X3) \Leftrightarrow (X2 = X3)) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((\neg v1\_xboole\_0 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))))\Rightarrow(\forall X2.(m2\_subset\_1 X2 X0 X1)\Leftrightarrow(m1\_subset\_1 X2 X1)) \quad (4)$$

Assume the following.

$$\forall X0.k9\_setfam\_1 X0 = k1\_zfmisc\_1 X0 \quad (5)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((\neg v1\_xboole\_0 X1)\wedge((v1\_prob\_1 X1 X0)\wedge((v4\_prob\_1 X1 X0)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k1\_zfmisc\_1 X0))))))\wedge(((v5\_relat\_1 X2 X1)\wedge((v1\_funct\_1 X2)\wedge((v1\_funct\_2 X2 k5\_numbers (k9\_setfam\_1 X0))\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k9\_setfam\_1 X0))))))\wedge(m1\_subset\_1 X3 k5\_numbers))))\Rightarrow(k1\_prob\_4 X0 X1 X2 X3 = k1\_funct\_1 X2 X3) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_funct\_1 X1)\wedge((v1\_funct\_2 X1 k5\_numbers (k9\_setfam\_1 X0))\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k9\_setfam\_1 X0))))))\Rightarrow((v3\_prob\_1 X1)\Rightarrow(\forall X2.(m2\_subset\_1 X2 k1\_numbers k5\_numbers)\Rightarrow(k1\_prob\_4 X0 (k9\_setfam\_1 X0) (k2\_prob\_3 X0 X1) X2 = k1\_prob\_4 X0 (k9\_setfam\_1 X0) X1 X2))) \quad (8)$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1)\wedge(v3\_ordinal1 k4\_ordinal1) \quad (9)$$

Assume the following.

$$\forall X0.v4\_prob\_1 (k1\_zfmisc\_1 X0) X0 \quad (10)$$

Assume the following.

$$\forall X0.v1\_prob\_1 (k1\_zfmisc\_1 X0) X0 \quad (11)$$

Assume the following.

$$\forall X0.\neg v1\_xboole\_0 (k1\_zfmisc\_1 X0) \quad (12)$$

Assume the following.

$$\forall X0.m1\_subset\_1 (k9\_setfam\_1 X0) (k1\_zfmisc\_1 (k1\_zfmisc\_1 X0)) \quad (13)$$

Assume the following.

$$m1\_subset\_1\ k5\_numbers\ (k1\_zfmisc\_1\ k1\_numbers) \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ k5\_numbers \\ (k9\_setfam\_1\ X0))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1 \\ k5\_numbers\ (k9\_setfam\_1\ X0))))))\Rightarrow((v1\_funct\_1\ (k2\_prob\_3\ X0 \\ X1))\wedge((v1\_funct\_2\ (k2\_prob\_3\ X0\ X1)\ k5\_numbers\ (k9\_setfam\_1\ X0))\wedge \\ (m1\_subset\_1\ (k2\_prob\_3\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers \\ (k9\_setfam\_1\ X0)))))) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1 \\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow((v4\_relat\_1\ X2\ X0)\wedge(v5\_relat\_1\ X2\ X1)) \quad (16)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1 \\ X0))\Rightarrow(v1\_xboole\_0\ X1)) \quad (17)$$

**Theorem 1**

$$\begin{aligned} \forall X0.\forall X1.((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ k5\_numbers \\ (k9\_setfam\_1\ X0))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1 \\ k5\_numbers\ (k9\_setfam\_1\ X0))))))\Rightarrow((v3\_prob\_1\ X1)\Rightarrow(r2\_funct\_2 \\ k5\_numbers\ (k9\_setfam\_1\ X0)\ (k2\_prob\_3\ X0\ X1)\ X1)) \end{aligned}$$