

# t4\_prob\_2

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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  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  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  $k5\_numbers : \iota$  be given. Let  $k9\_setfam\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_prob\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_prob\_1 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k1\_prob\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_prob\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.(r1\_tarski\ X0\ X1) \Rightarrow (r1\_tarski\ (k3\_xboole\_0\ X0\ X2)\ (k3\_xboole\_0\ X1\ X2)) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0) \wedge ((\neg v1\_xboole\_0\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)))) \Rightarrow (\forall X2.(m2\_subset\_1\ X2\ X0\ X1) \Leftrightarrow (m1\_subset\_1\ X2\ X1)) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X1) \wedge ((v1\_prob\_1\ X1\ X0) \wedge ((v4\_prob\_1\ X1\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ X0)))))) \Rightarrow (\forall X2.(m1\_prob\_1\ X2\ X0\ X1) \Leftrightarrow (m1\_subset\_1\ X2\ X1)) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((\neg v1\_xboole\_0\ X1) \wedge ((v1\_prob\_1\ X1\ X0) \wedge ((v4\_prob\_1\ X1\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ X0)))))) \wedge ((m1\_subset\_1\ X2\ X1) \wedge (m1\_subset\_1\ X3\ X1))) \Rightarrow (k5\_prob\_1\ X0\ X1\ X2\ X3 = k3\_xboole\_0\ X2\ X3) \quad (4)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((\neg v1\_xboole\_0 \\ & X1)\wedge((v1\_prob\_1 X1 X0)\wedge((v4\_prob\_1 X1 X0)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k1\_zfmisc\_1 X0))))))\wedge(((v5\_relat\_1 X2 X1)\wedge((v1\_funct\_1 X2)\wedge \\ & ((v1\_funct\_2 X2 k5\_numbers (k9\_setfam\_1 X0))\wedge(m1\_subset\_1 X2 \\ & (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k9\_setfam\_1 X0))))))\wedge \\ & (m1\_subset\_1 X3 k5\_numbers)))\Rightarrow(k1\_prob\_2 X0 X1 X2 X3 = k1\_funct\_1 \\ & X2 X3) \end{aligned} \quad (6)$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1)\wedge(v3\_ordinal1 k4\_ordinal1) \quad (7)$$

Assume the following.

$$m1\_subset\_1 k5\_numbers (k1\_zfmisc\_1 k1\_numbers) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((\neg v1\_xboole\_0 \\ & X1)\wedge((v1\_prob\_1 X1 X0)\wedge((v4\_prob\_1 X1 X0)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k1\_zfmisc\_1 X0))))))\wedge(((v5\_relat\_1 X2 X1)\wedge((v1\_funct\_1 X2)\wedge \\ & ((v1\_funct\_2 X2 k5\_numbers (k9\_setfam\_1 X0))\wedge(m1\_subset\_1 X2 \\ & (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k9\_setfam\_1 X0))))))\wedge \\ & (m1\_subset\_1 X3 k5\_numbers)))\Rightarrow(m1\_prob\_1 (k1\_prob\_2 X0 X1 X2 X3) \\ & X0 X1) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0)\wedge(v1\_funct\_1 X0))\Rightarrow((v2\_prob\_1 X0)\Leftrightarrow \\ & (\forall X1.(m2\_subset\_1 X1 k1\_numbers k5\_numbers)\Rightarrow(\forall X2. \\ & (m2\_subset\_1 X2 k1\_numbers k5\_numbers)\Rightarrow((r1\_xxreal\_0 X1 X2)\Rightarrow \\ & (r1\_tarski (k1\_funct\_1 X0 X2) (k1\_funct\_1 X0 X1)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))\Rightarrow(v1\_xboole\_0 X1)) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(v1\_relat\_1 X2) \quad (12)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1\_xboole\_0 X1) \wedge (v1\_prob\_1 X1 X0) \wedge \\ & ((v4\_prob\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k1\_zfmisc\_1 \\ & X0)))))) \Rightarrow (\forall X2. ((v5\_relat\_1 X2 X1) \wedge ((v1\_funct\_1 X2) \wedge \\ & (v1\_funct\_2 X2 k5\_numbers (k9\_setfam\_1 X0)) \wedge (m1\_subset\_1 X2 ( \\ & k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k9\_setfam\_1 X0)))))) \Rightarrow \\ & (\forall X3. ((v5\_relat\_1 X3 X1) \wedge ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 \\ & X3 k5\_numbers (k9\_setfam\_1 X0)) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 k5\_numbers (k9\_setfam\_1 X0)))))) \Rightarrow (\forall X4. \\ & (m1\_prob\_1 X4 X0 X1) \Rightarrow (((v2\_prob\_1 X2) \wedge (\forall X5. (m2\_subset\_1 \\ & X5 k1\_numbers k5\_numbers) \Rightarrow (k1\_prob\_2 X0 X1 X3 X5 = k5\_prob\_1 X0 X1 \\ & (k1\_prob\_2 X0 X1 X2 X5) X4))) \Rightarrow (v2\_prob\_1 X3)))))) \end{aligned}$$