

## t42\_prob\_3

(TMMU8nJfw8rmnzUFuQdEFs5YHHpWbdzB4C9)

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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  $v1\_prob\_2 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_prob\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. (\neg(\neg r1\_xboole\_0 X0 X1) \wedge (\forall X2. \neg(X2 \in X0) \wedge (X2 \in X1))) \wedge (\neg(\exists X2. (X2 \in X0) \wedge (X2 \in X1)) \wedge (r1\_xboole\_0 X0 X1)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v7\_ordinal1 X0) \Rightarrow (\forall X1. \forall X2. \forall X3. \\ & ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 k5\_numbers (k9\_setfam\_1 X1)) \wedge \\ & (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k9\_setfam\_1 \\ & X1)))))) \Rightarrow ((X2 \in k1\_funct\_1 (k2\_prob\_3 X1 X3) X0) \Leftrightarrow (\exists X4. ( \\ & v7\_ordinal1 X4) \wedge ((r1\_xxreal\_0 X4 X0) \wedge (X2 \in k1\_funct\_1 X3 X4)))))) \quad (2) \end{aligned}$$

Assume the following.

$$\forall X0. k9\_setfam\_1 X0 = k1\_zfmisc\_1 X0 \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 k5\_numbers \\ & (k9\_setfam\_1 X0)) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & k5\_numbers (k9\_setfam\_1 X0)))))) \Rightarrow ((v1\_prob\_2 X1) \Leftrightarrow (\forall X2. \\ & (v7\_ordinal1 X2) \Rightarrow (\forall X3. (v7\_ordinal1 X3) \Rightarrow ((X2 \neq X3) \Rightarrow (r1\_xboole\_0 \\ & (k1\_funct\_1 X1 X2) (k1\_funct\_1 X1 X3)))))) \quad (4) \end{aligned}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 X1) \wedge \\ & ((v1\_prob\_1 X1 X0) \wedge ((v4\_prob\_1 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k1\_zfmisc\_1 X0)))))) \Rightarrow (\forall X2.((v5\_relat\_1 X2 X1) \wedge ((v1\_funct\_1 \\ & X2) \wedge ((v1\_funct\_2 X2 k5\_numbers (k9\_setfam\_1 X0)) \wedge (m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers (k9\_setfam\_1 X0)))))) \Rightarrow \\ & ((v1\_prob\_2 X2) \Rightarrow (\forall X3.(v7\_ordinal1 X3) \Rightarrow (\forall X4.(v7\_ordinal1 \\ & X4) \Rightarrow ((\neg r1\_xxreal\_0 X4 X3) \Rightarrow (r1\_xboole\_0 (k1\_funct\_1 (k2\_prob\_3 \\ & X0 X2) X3) (k1\_funct\_1 X2 X4)))))))) \end{aligned}$$