

t14\_zf\_refle  
(TMd6GgayiAKXUuD3UWjDbR4FXVkgdgVHuq7)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_classes2 : \iota \Rightarrow o$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  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  $k2\_ordinal1 : \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_zf\_refle : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_card\_3 : \iota \Rightarrow \iota$  be given. Let  $k5\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k6\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v5\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_ordinal2 : \iota \Rightarrow o$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_classes1 : \iota \Rightarrow \iota$  be given. Let  $k1\_zf\_refle : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. (v1\_relat\_1 X1) \Rightarrow ((r1\_tarski (k10\_xtuple\_0 X1) X0) \Rightarrow (k6\_relat\_1 X0 X1 = X1)) \quad (1)$$

Assume the following.

$$\forall X0. r1\_tarski (k2\_ordinal1 X0) X0 \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((r1\_tarski X0 X1) \wedge (r1\_tarski X1 X2)) \Rightarrow (r1\_tarski X0 X2) \quad (4)$$

Assume the following.

$$\forall X0. (v3\_ordinal1 X0) \Rightarrow (\forall X1. ((v1\_relat\_1 X1) \wedge ((v5\_ordinal1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_ordinal2 X1)))) \Rightarrow (k5\_relat\_1 X1 (k4\_classes1 X0) = k5\_relat\_1 X1 X0)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(k5\_relset\_1 X0 X1 X2 X3 = k5\_relat\_1 X2 X3) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v1\_relat\_1 X0)\wedge((v5\_ordinal1 X0)\wedge((v1\_funct\_1 X0)\wedge(v1\_ordinal2 X0))))\wedge(((\neg v1\_xboole\_0 X1)\wedge(v1\_classes2 X1))\wedge((v3\_ordinal1 X2)\wedge(m1\_subset\_1 X2 X1))))\Rightarrow(k2\_zfmisc\_1 X0 X1 X2 = k1\_zfmisc\_1 X0 X1 X2) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v5\_relat\_1 X1 X0))\Rightarrow(k2\_relset\_1 X0 X1 = k10\_xtuple\_0 X1) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1 X0)\Rightarrow(k5\_relat\_1 (k5\_relat\_1 X0 X1) X1 = k5\_relat\_1 X0 X1) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0)\wedge(v1\_funct\_1 X0))\Rightarrow((v1\_relat\_1 (k5\_relat\_1 X0 X1))\wedge(v1\_funct\_1 (k5\_relat\_1 X0 X1))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v5\_ordinal1 X0)))\wedge(v3\_ordinal1 X1))\Rightarrow((v1\_relat\_1 (k5\_relat\_1 X0 X1))\wedge((v5\_relat\_1 (k5\_relat\_1 X0 X1) (k10\_xtuple\_0 X0))\wedge(v5\_ordinal1 (k5\_relat\_1 X0 X1)))) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(((v5\_ordinal1 X0)\wedge((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v1\_ordinal2 X0))))\wedge(v3\_ordinal1 X1))\Rightarrow((v1\_relat\_1 (k5\_relat\_1 X0 X1))\wedge(v1\_ordinal2 (k5\_relat\_1 X0 X1))) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(m1\_subset\_1 (k5\_relset\_1 X0 X1 X2 X3) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v5\_relat\_1 X1 X0))\Rightarrow(m1\_subset\_1 (k2\_relset\_1 X0 X1) (k1\_zfmisc\_1 X0)) \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.(( \\ \neg v1\_xboole\_0 X1) \wedge (v1\_classes2 X1)) \Rightarrow (\forall X2.((v3\_ordinal1 \\ X2) \wedge (m1\_subset\_1 X2 X1)) \Rightarrow (k1\_zf\_refle X0 X1 X2 = k3\_card\_3 (k6\_relat\_1 \\ X1 (k5\_relat\_1 X0 (k4\_classes1 X2)))))) \end{aligned} \quad (15)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_relat\_1 X2) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v1\_xboole\_0 X0) \wedge (v1\_classes2 X0)) \Rightarrow (\forall X1. \\ (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_ordinal1 X0) (k2\_ordinal1 \\ X0)))) \Rightarrow (((v1\_funct\_1 X1) \wedge (v1\_funct\_2 X1 (k2\_ordinal1 X0) (k2\_ordinal1 \\ X0))) \Rightarrow ((v5\_ordinal1 X1) \wedge ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 (k2\_ordinal1 \\ X0) (k2\_ordinal1 X0)) \wedge (v1\_ordinal2 X1)))))) \end{aligned} \quad (18)$$

**Theorem 1**

$$\begin{aligned} \forall X0. ((\neg v1\_xboole\_0 X0) \wedge (v1\_classes2 X0)) \Rightarrow (\forall X1. \\ ((v3\_ordinal1 X1) \wedge (m1\_subset\_1 X1 X0)) \Rightarrow (\forall X2. ((v1\_funct\_1 \\ X2) \wedge ((v1\_funct\_2 X2 (k2\_ordinal1 X0) (k2\_ordinal1 X0)) \wedge (m1\_subset\_1 \\ X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k2\_ordinal1 X0) (k2\_ordinal1 X0)))))) \Rightarrow \\ ((k2\_zf\_refle X2 X0 X1 = k3\_card\_3 (k5\_relset\_1 (k2\_ordinal1 X0) \\ (k2\_ordinal1 X0) X2 X1)) \wedge (k2\_zf\_refle (k5\_relset\_1 (k2\_ordinal1 \\ X0) (k2\_ordinal1 X0) X2 X1) X0 X1 = k3\_card\_3 (k5\_relset\_1 (k2\_ordinal1 \\ X0) (k2\_ordinal1 X0) X2 X1)))))) \end{aligned}$$