

## t19\_zf\_refle

(TMXXSN3jywBYX2DRhhkg8HnKzjT7E8kCQk2)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_classes2 : \iota \Rightarrow o$  be given. Let  $k3\_ordinal2 : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_ordinal1 : \iota \Rightarrow \iota$  be given. Let  $k1\_ordinal1 : \iota \Rightarrow \iota$  be given. Let  $k3\_tarski : \iota \Rightarrow \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k9\_setfam\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_setfam\_1 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k6\_ordinal4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $v1\_classes1 : \iota \Rightarrow o$  be given. Let  $v1\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v2\_classes1 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. r1\_tarski (k2\_ordinal1 X0) X0 \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1\_xboole\_0 X1) \tag{2}$$

Assume the following.

$$\forall X0. r1\_tarski (k3\_ordinal2 X0) (k1\_ordinal1 (k3\_tarski (k2\_ordinal1 X0))) \tag{3}$$

Assume the following.

$$\forall X0. v3\_ordinal1 (k3\_tarski (k2\_ordinal1 X0)) \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1\_xboole\_0 X1) \wedge (v1\_classes2 X1)) \Rightarrow \\ & ((X0 \in X1) \Rightarrow ((k9\_setfam\_1 X0 \in X1) \wedge ((k3\_tarski X0 \in X1) \wedge (k1\_setfam\_1 \\ & \quad X0 \in X1)))) \end{aligned} \tag{5}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X0 (k1\_zfmisc\_1 X1))\Leftrightarrow(r1\_tarski X0 X1) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X0 X1)\Rightarrow((v1\_xboole\_0 X1)\vee (X0 \in X1)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.r1\_tarski X0 X0 \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v1\_xboole\_0 X0)\wedge(v1\_classes2 X0))\wedge ((v3\_ordinal1 X1)\wedge(m1\_subset\_1 X1 X0)))\Rightarrow(k6\_ordinal4 X0 X1 = k1\_ordinal1 X1) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v1\_xboole\_0 X0)\wedge(v1\_classes2 X0))\wedge ((v3\_ordinal1 X1)\wedge(m1\_subset\_1 X1 X0)))\Rightarrow((v3\_ordinal1 (k6\_ordinal4 X0 X1))\wedge((\neg v1\_xboole\_0 (k6\_ordinal4 X0 X1))\wedge(m1\_subset\_1 (k6\_ordinal4 X0 X1) X0))) \quad (11)$$

Assume the following.

$$\forall X0.k1\_ordinal1 X0 = k2\_xboole\_0 X0 (k1\_tarski X0) \quad (12)$$

Assume the following.

$$\forall X0.(v1\_classes1 X0)\Leftrightarrow(\forall X1.\forall X2.((X1 \in X0)\wedge (r1\_tarski X2 X1))\Rightarrow(X2 \in X0)) \quad (13)$$

Assume the following.

$$\forall X0.(v1\_classes2 X0)\Rightarrow((v1\_ordinal1 X0)\wedge(v2\_classes1 X0)) \quad (14)$$

Assume the following.

$$\forall X0.(v2\_classes1 X0)\Rightarrow(v1\_classes1 X0) \quad (15)$$

**Theorem 1**

$$\forall X0.(((\neg v1\_xboole\_0 X0)\wedge(v1\_classes2 X0))\Rightarrow(\forall X1.(X1 \in X0)\Rightarrow(k3\_ordinal2 X1 \in X0)))$$