

## l25\_metrizts

(TMYLj8METhvXNRQbqRkokakVC9ZbHP6gwVZ)

October 27, 2020

Let  $v2\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v3\_pcomps\_1 : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $v1\_card\_1 : \iota \Rightarrow o$  be given. Let  $r1\_ordinal1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_topgen\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_waybel23 : \iota \Rightarrow \iota$  be given. Let  $k2\_card\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_tops\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k1\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1\_card\_1 X0) \Rightarrow (\forall X1.(v1\_card\_1 X1) \Rightarrow (\forall X2. \\ & (v1\_card\_1 X2) \Rightarrow (\forall X3.(v1\_card\_1 X3) \Rightarrow ((\neg(\neg(X0 \in X1) \wedge (X2 \in \\ & X3)) \wedge (\neg(r1\_ordinal1 X0 X1) \wedge (X2 \in X3)) \wedge (\neg(X0 \in X1) \wedge (r1\_ordinal1 \\ & X2 X3)) \wedge (\neg(r1\_ordinal1 X0 X1) \wedge (r1\_ordinal1 X2 X3)))))) \Rightarrow ((r1\_ordinal1 \\ & (k2\_card\_2 X0 X2) (k2\_card\_2 X1 X3)) \wedge (r1\_ordinal1 (k2\_card\_2 X2 \\ & X0) (k2\_card\_2 X1 X3)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((r1\_tarski X0 X1) \wedge (r1\_tarski X1 X2)) \Rightarrow (r1\_tarski X0 X2) \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v2\_pre\_topc X0) \wedge ((v3\_pcomps\_1 X0) \wedge (l1\_pre\_topc \\ & X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X0))) \Rightarrow ((v1\_tops\_1 X1 X0) \Rightarrow (r1\_ordinal1 (k2\_waybel23 X0) (k2\_card\_2 \\ & k4\_ordinal1 (k1\_card\_1 X1)))))) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.((v3\_ordinal1 X0) \wedge (v3\_ordinal1 X1)) \Rightarrow (r1\_ordinal1 X0 X0) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((v3\_ordinal1\ X0)\wedge(v3\_ordinal1\ X1))\Rightarrow( (r1\_ordinal1\ X0\ X1)\Leftrightarrow(r1\_tarSKI\ X0\ X1)) \quad (5)$$

Assume the following.

$$\forall X0.((\neg v1\_finset\_1\ X0)\wedge(v1\_card\_1\ X0))\Rightarrow(k2\_card\_2\ k4\_ordinal1\ X0 = X0) \quad (6)$$

Assume the following.

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

Assume the following.

$$v1\_card\_1\ k4\_ordinal1 \quad (8)$$

Assume the following.

$$\forall X0.((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0))\Rightarrow(v1\_card\_1\ (k4\_topgen\_1\ X0)) \quad (9)$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0)\Rightarrow(v1\_card\_1\ (k2\_waybel23\ X0)) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_card\_1\ X0)\wedge(v1\_card\_1\ X1))\Rightarrow(v1\_card\_1\ (k2\_card\_2\ X0\ X1)) \quad (11)$$

Assume the following.

$$\begin{aligned} &\forall X0.((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0))\Rightarrow(\forall X1. \\ &(v1\_card\_1\ X1)\Rightarrow((X1 = k4\_topgen\_1\ X0)\Leftrightarrow((\exists X2.(m1\_subset\_1 \\ &X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))\wedge((v1\_tops\_1\ X2\ X0)\wedge(X1 = k1\_card\_1 \\ &X2))\wedge(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0 \\ &X0)))\Rightarrow((v1\_tops\_1\ X2\ X0)\Rightarrow(r1\_ordinal1\ X1\ (k1\_card\_1\ X2))))))) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.(v1\_card\_1\ X0)\Rightarrow(v3\_ordinal1\ X0) \quad (13)$$

**Theorem 1**

$$\begin{aligned} &\forall X0.((v2\_pre\_topc\ X0)\wedge((v3\_pcomps\_1\ X0)\wedge(l1\_pre\_topc \\ &X0)))\Rightarrow(\forall X1.((\neg v1\_finset\_1\ X1)\wedge(v1\_card\_1\ X1))\Rightarrow((r1\_ordinal1 \\ &(k4\_topgen\_1\ X0\ X1)\Rightarrow(r1\_ordinal1\ (k2\_waybel23\ X0\ X1)))) \end{aligned}$$